

**MARTIN CARNOY , ISAK FROUMIN,
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!"#\$%&'()*+,-./01#2(3:40,1/)"5

| | | |
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| Chapter 10 | | |

676# 80+(5#09#2(+().3"5: ;#<"1(#40, 1/)"(5# =
 67># 2(+().3"5: #"1#%"&' ()#*+, -. /"01;#<"1(#40, 1/)"(5# ?

 >76# @0/.3#*1)03: (1/"1#%"&' ()#*+, -. /"01#.1+#A)-(1/.&(#
 "1#@BOCD(.)#E15"/, /"015;#FD#G/. /(#6HI JK>J66# =I
 >7># *1)03: (1/"1#A)"!./(%%"&' ()#*+, -. /"01#E15"/, /"015;#
 G/. /(#6HI JK>J66#LMN# ?>
 >70# *5": ./(+%"&' ()#*+, -. /"01#*1)03: (1/#P)0B/' ;##
 6HI JK>J66#.1+#6HQK>J66# ?I
 >7R# 4,))(1/#S(! (1, (5#FD#GO,)-(#.1+#E15"/, /"01.3#@DT(##
 6HI JK>J66#L>J6J#U033.)5V#MN# IR
 >7=# A, F3"-#%"&' ()#*+, -. /"01;#S(! (1, (W2, 33C/" : (#G/, +(1/#
 P)0B/' #S./(#.1+#A)-(1/.&(#09#S(! (1, (#)0: #X.)"0, 5#
 GO,)-(5;#6HH=#.1+#>J66# II
 >7?# A, F3"-#%"&' ()#*+, -. /"01#S.1Y"1	#G/. /(#FD##
 A)-(1/.&(#09#S(! (1, (#)0: #X.)"0, 5#GO,)-(5#1#6HH=# Q0

 076# Z)(.:#AOT,3./"01#.1+#[1(

!""#\$

>76# *1)03: (1/#P)0B/' ;#FD#@DT(#09#E15/'/, /"01;##
 6HI JK>J6J# =6
 >7># [1"/(+G/./(5a#A)- (1/.&(#09#6QC#/O#>RCD(.).C03+5##
 1)033(+#"1#%"&')#+, -. /"01;#FD#S.-(#6HI >K>J6># =0
 >70# [1"/(+G/./(5a#A)- (1/.&(#09#6QC#/O#>RCD(.).C03+5##
 1)033(+#"1#%"&')#+, -. /"01;#FD#*/' 1"-/D;#6HI >K>J6># =R
 >7R# [1"/(+G/./(5a#A)0T0)"/"01#09#E1/(.)1."01.3#G/, +(1/5##
 .#/' (# [1+()&).+, ./(#b(! (3#.1+##.#/' (#
 P).+, ./(#b(! (3#"1#G@* 8#2"(3+5;#6HQJK>J6># ==
 >7=# %"&')#*+, -. /"01#@, "/"01#.1+#2((5##
 FD#E15/'/, /"01.3#@DT(;#6HI RK>J6R#L>J6R#U033.)5N# I>
 >7?# A)0T0)"/"01#09#4,)) (1/#%"&')#*+, -. /"01#
 #GT(1+"1&#A, F3"-3D#2, 1+(+;#FD#@DT(#09#E15/'/, /"01;##
 6HI JK>J6J#LMN# Q>
 ?76# G/, -/,)(#09#%"&')#*+, -. /"01#"1#`).d#3# >>J
 I76# @(1+5#"1#*^T(1+/,)(#FD#[1"01#.1+##
 G./(#P0! ()1: (1/5#01#%"&')#*+, -. /"01##
 L"1#>JJRK>JJ=#A)"-(5N# 6J#8"33"01N# >HJ
 I7># [1"01KG/./(#G' .)(5#"1#2"1.1-"1&#%"&')#*+, -. /"01#LMN# >H>
 I70# E1+.#a#2"1.1-"1	#%"&')#*+, -. /"01#.5#. #A)0T0)"/"01#09#
 PUA;#4(1/)(#.1+#G./(#P0! ()1: (1/5;#FD#@DT(#09#%"&')#
 *+, -. /"01;#>JJ=K>JJ?#.1+#>J66K>J6>#LM#PUAN# >H0
 H76# @' (#G/, -/,)(#09#@. ^#S(! (1, (5#FD#b(! (35#09#/' (#
 ` , +&(#GD5/(: ;#>J6=# 0?0
 H7># 2(+).3#.1+#S(&"01.3#` , +&(/5#.5#. #G' .)(#09#/' (#
 401503'+./(+#` , +&(/# 0?R

^""# \$# %"&' ()#*+, -. /"01#1#2(+).3#40, 1/)^(5

H70# @' (#@0/.3# <, : F())#09#%*E5#1#S, 55".# 0?Q
 H7R# @' (#@0/.3# <, : F())#09#G/, +(1/5#.#/#%*E5# 0?H
 H7=# @' (#<, : F())#09#%*E5#401/)033(+##
 FD#2(+).3#.1+#S(&"01.3#Z, /' 0)"#(5# 0IQ
 H7?# @' (#b0-./"01#09#[1"! ()5"/"(5#A.)/"- "T./"1#/' (#
 S, 55".1#*^-(33(1-(#E1"/."#! (# 0Q0
 H7I# @' (#@0/.3#2, 1+"1	#%"&' ()#*+, -. /"01#GD5/(: ##
 9)0: #A, F3"-#G0,)-(5#L"1#`"33"01#S0, F3(5# 0Q=
 H7O# Z! ().&(#2, 1+"1&#T())#G/, +(1/"1#/' (#S(&"01##
 L@' 0, 5.1+5#09#S0, F3(5#.#1+##/' (#E1+(^#09#PSA#T())#
 4.T"/.#Z+h, 5/(+#FD#S(&"01.3#4015, : ()#A)"-(5;#>J66# 0Q?
 H7H# S, 55".a#b(! (3#09#E1/())(&"01.3#%"&' ()#*+, -. /"01##
 8"&)./"01#;>J60# 0Q0
 H76J# @' (#b(! (3#09#%"&' ()#*+, -. /"01#Z--(55#L*i, "/DN##
 FD#S(&"015# 0HJ
 H766# 20)(-.5/#09#/' (#<, : F())#09#%*E#G/, +(1/5# 0H>

6J76# 4(1/).3#P0! ()1: (1/5#S(! (1, (#.1+##
 *^T(1+/,)(#G' .)(#L6H=0K>J60N# R>0
 6J7># b0-.3#P0! ()1: (1/5#S(! (1, (#.1+##
 *^T(1+/,)(#G' .)(#L6H=0K>J60N# R>R
 6J70# 20,)#@()5#09#/' (#%"&' ()#*+, -. /"01##
 %"().)-' D#"1#4' "1.# R>I
 6J7R# *^T(1+/,)(#T())#G/, +(1/"1#4(1/)(C#.1+##
 S(&"01C.99"3"/.(+#E15"/, /"015# R>H
 6J7=# @')((#%"&' ()#*+, -. /"01#*^T.15"015#"1##
 4' "1.#L6HRH#/O#U./(# R0>
 6J7?# <, : F())#09#%*1)033(+## [1+())+. ,. /(#G/, +(1/5##
 FD#S(&"01#L>J6>N# ROI
 6J7I# <, : F())#09#%"&' #G-' 003#.1+#4033(&(#G/, +(1/5##
 90)*#! ()D#6JJ;JJ#S(5+(1/5#L>J6RN# R0Q
 6J7Q# Z#GD1/' (5"d(+2).: (B0)Y#90)#S(&"01.3#@()/' .)D#
 U(! (30T: (1/# RRI

^!# \$# %&' ()#*+, -. /"01#1#2(+().3#40, 1/)"(5

2E*G 2, 1+#90)#G/, +(1/#2"1.1-"1&

2E8A*G 2(+()./"01#09#8(^".1#A)"!./(#%"&' ()#*+, -. /"01#
E15"/, /"015

2_8*G 2, 1+#90)#/' (#80+()1"d./"01#09#%"&' ()#*+, -. /"01

PUA P)055#U0: (5/"-#A)0+, -/

< * * @ < ./"01.3#*1/). 1-(#*3"&"F"3"/D#@/(5/
 < * @ < ./"01.3#*3"&"F"3"/D#@/(5/
 < E @ < ./"01.3#E15"/, /(#09#@(-' 1030&D
 < G * S 4 < ./,). 3#G-"(1-(5#. 1+*# 1&"1(())"1&#S(5(.)-' #40, 1-"3
 < G 2 < ./"01.3#G-"(1-(#20, 1+./"01
 _ ` 4 0/' ()#F.-YB.)+#-3.55(5
 _ * 4 U _)#.1"d./"01#90)#*-010: "-#40COT()./"01#. 1+#
 U(! (30T: (1/
 __ A 0, /CO9CT)O!"1-(
 AZ < < ./"01.3#Z-/"01#A.)/D
 A * E A)"1-(#*+B.)+#E3. 1+
 AEGZ A)0&).: #90)#E1/()1./"01.3#G/, +(1/#Z55(55: (1/
 AAA T,)-' .5"1&#TOB()#T.)"/D
 ASE A.)"/+0#S(!03, -"01.)"0#E15"/, -"01.3#LE15"/, /"01.3#
 S(!03, /"01.)D#A.)/DN
 AS_ 8 * A A)0&).: #90)#/' (#E: T)O! (: (1/#09#/' (#A)09(550)5' "T
 SUZ)(&"01.33D#+(- (1/).3"d(+#. , /' 0)"/.). 1
 S [G Z S.5' /)"D.# [-' -' ./.)#G' "Y5' .#ZF' "D.1
 SX _ * __99"- .3#S(-0&1"/"01#09#*+, -. /"01.3#X.3'+"/D
 G * A A, F3"-#*+, -. /"01#G(-) (/.)"/.
 G * G [1+()5(-) (/.)"/#0)#%&' ()#*+, -. /"01
 G % * * _ G./ (#%&' ()#*+, -. /"01#*^(-, /! (#__99"-)5#
 Z550-." /"01
 GE < Z * G < ./"01.3#GD5/(: #09#%&' ()#*+, -. /"01#*! .3, ./"01
 G < E < ./"01.3#S(5(.)-' ()5#GD5/(:
 G < @ * < ./"01.3# [1"01#09#*+, -. /"01#g 0)Y()5
 GG % S 4 G0-" .3#G-"(1-(5#. 1+#%, : .1"/" (5#S(5(.)-' #40, 1-"3#09#
 4. 1. +.
 G @ * 8 5-"(1-(;#/(-' 1030&D;#(1&"1(())"1&#. 1+#: ./' (: ./"-5
 @ Z 2 * @(-' 1"- .3#. 1+#2,)/' ()#*+, -. /"01
 @ * F G Z @()"/.)D#*+, -. /"01#F , .3"/D#. 1+#G/. 1+.)+5#Z&(1-D
 @ 2 2 @())"/0)".3#20): , 3.#2"1. 1-"1&
 [Z 8 Z, /010: 0, 5#8 (/)OT03"/. 1#[1"! ()5"/D
 [P 4 [1"! ()5"/D#P). 1/5#40: : "55"01
 [E 5 "1/()-, 3/,). 3#, 1"! ()5"/"5
 [< Z 8 < ./"01.3#Z, /010: 0, 5#[1"! ()5"/D#09#8(^"-0

^!"# \$%&' ()#*+, -./"01#1#2(+().3#40, 1/)^(5

| | |
|--------|--|
| [A*ZG | T, F3"-#, 1"! ()5"/"(5#B"/' #503"+.)"/D#5, TT0)/ |
| [A< | <./"01.3#A(+.&0&"-.3#[1"! ()5"/D |
| X*@ | X0-./"01.3#*+, -./"01#.1+#@). "1"1& |
| g 4[| B0)3+C-3.55#, 1"! ()5"/"(5 |
| CG | C-.)%.785k.*5< |
| CG# | C).<&)\$<.78)/G)D<+*)%D+%0*)%E |

@' (#"+(.#90)#/' "5#FOOY#(: ()&(+9)0: #+"5-, 55"01#"1#` ("h"1&##+,)"1&##/' (#
T)(T.)./"01#09#. #FOOY#01##/' (#(^T.15"01#09#" '&' ()#(+, -. /"01#"1#` SE4#
-0, 1/) "(5#/' ./#B.5#B)"/(1#FD#. 1#Z: ()-. 1K`).d"3K4' "1(5(KS, 55". 1K
E1+" .1#/(.: #L4.)10D#(/#.37#>J60N7#_g (#10/(+##/' ./#4' "1.#.1+#S, 55".#
' .#+ "99() (1/#. TT)0. -' (5#/0#/' (#55, (#09#/' (#, 1"! ()5"/D#+ (! (30T: (1/#. 1+#
&0! ()1. 1-(#./#T)0! "1-".3#L)(&"01.3N#3(! (37#_g ' "3(#S, 55".#'. +#+(-"+(+
/0#: . "1/. "1#.33#09#/' (#T, F3-# , 1"! ()5"/" (5#"1' ()"/(+9)0: #/' (#GO!"(/#
[1"01#, 1+)#+")(-/#-(1/).3#(5T015"F"3"/D;#/' (#4' "1(5(#&0! ()1: (1/#' .+
+(!03! (+#(5T015"F"3"/D#9)##/' (#. .h0)"/D#09#T, F3-# , 1"! ()5"/" (5#/O#T)0! "1C
-.3#&0! ()1: (1/57#@' "5#: "10)#+"5-0! ()D#"1"/. /(+#. 1#.-/"! (#+"5-, 55"01#
01#B' ./#: "&' /#F(#/' (#OT/" : .3#: 0+(3#90)#&0! ()1"1&#. #1./"01.3#5D5/(: #
09#" '&' ()#(+, -. /"01#"1#. #F&#. 1+##+"! ()5(#-0, 1/)D#"1#B' "- #/' (#)(&"015#
T3.D#. #5"&1"9"- .1/#)03(7#E1#/' (#-0,)5(#09#/' "5#+ "5-, 55"01;#B(#/0, -' (+01#
' (#9,)/' ()#(^. : T3(5#09#E1+" .#. 1+##/' (# [1"/(+#G/./ (57#_g (#) (.3"d(+##/' ./#
9)0: #. #5-' 03.)3D#! "(BT0"1;/#/#B0, 3+#F (#! ()D#"1/() (5/"1&#/0#300Y#. /##/' "5#
"55, (#: 0)(#5D5/(: ./"- .33D#. 1+##"1#-0: T.)./"! (#T ()5T (-/"! (7#Z/##/' (#5.: (#
/" : (;#B(#9(3/##/' ./#5, -' #. #5/, +D#: "&' /#F (#, 5(9, 3#90)#. +: "1"5/)./0)5#B' 0#

^!""# \$# %"&' ()#*+, -./01#1#2(+).3#40, 1/)"(5

@' (#-01h, 1-/"01#09#9(+).3"5: #.1+#' "&' ()# (+, -./"01#"5# (5T(-".33D#
": TO)/.1/#90)#/' 05(#-0, 1/)"(5#/' ./#.) (#(i, ") (+#/0#. +h, 5/#/' (")#&0! ()1C
.1-(#5D5/(: #/0#: ((/#/' (#-' .33(1&(5#09#" "&' ()#(+, -./"01#(^T.15"01#.1+#
&)0B"1&#&30F.3#-0: T(/"/"017#S, 55".#5#01(#5, -' # -0, 1/)D7#@' (#-(1/).3#
&0! ()1: (1/#-01/"1, (5#"5#5(.)-' #90)#.1#0T/" :.3#: 0+(3#09#9(+).3K
)(&"01.3#)(3./"015' "T5#1#/' (#+"99() (1/#5(-/0)57#%(1-(;#/' "5#5/, +D#) (-"! (+#
(1/' , 5".5/"-#5, TT0)/#"1#S, 55".7#@' (# < ./"01.3#S(5(.)-' # [1"! ()5"/D#
%&' ()#G-' 003#09#* -010: "-5#L%G*W#.B.)+(+#.5T(-"9-#)(5(.)-' #&).1/#
90)#/' (#-01+, -/#09#. #-0: T.)/'! (#5/, +D#.1+##' (#T)(T.)/'"01#09#. #F00Y7

__! ()#/' (#3.5/#9"! (#D(.).5:#/' (#E15"/, /(#09#*+, -./"01#09#%G*#"1#-00TC
)/'"01#B"/' #3(.+"1Z)("&1#50-" .3#5-"(1/"5/5#'.5#: . "1/. "1(+#. #)(5(.)-' #

A)(9.-(# \$# ^^ ^

0%# @0)01/0;# 4. 1. +. N;# j. 1+' D. 3. # ` 7# P7# @"3. Y# L < . / " 01 . 3# [1" ! () 5" / D#

^^# \$# %"&' ()#*+, -./"01#1#2(+().3#40, 1/)"(5

`)0B1;#U7;#4. d.3"5;#A7;#. 1+#j.5: "1;#P7#(+57#6HH67#B-38)*/= &\$75<+%/-(6)&)*52/?J.<), .K/
F*+7))&-%3./+0/5%/L%<)*%5<+%52/M+22+N\$-\$, /B)2&/5</O\$))%P./O%-@)*.-<J7# __//. B. ;#

@' (#. , /' 0)5#.)(&#). / (9, 3#/0#/' (#S(-/0)#09#< ./'01.3#S(5(.)-' # [1"! ()5"/D# %G* ;#c.)053. !#] , d: "10! ;#90)#' "5#5, TTO)/#09#/' (#T)Oh(-/7#g (#/' .1Y# /' (#805-0B#099'-(#09#/' (#g 0)3+#` .1Y#90)#9, 1+"12: (#5/.&(5#09#/' (# T)Oh(-/7

Z350#B(#B0, 3+#3"Y(#/0#/' .1Y#A' "3"TZ3/F.-' #90)#! .3, .F3(#. +! "-(#. /# /' (#9")5/#5/.&(;#1.+#.&."1#"1#)(3. /'01#0#T, F3"5' "1&#"55, (57#g (#.)#T3(.5(+ # /O#F(#/' (#9")5/#F00Y#T, F3"5' (+#"1#/' (#1(B#5())(5#09#?; A=/?\$&-). /-%/ B-38)*=/&\$75<+%#3(+ #FD#A' "3"TZ

g (#. TT)(- . / (#/' (#-01)"F, /"01#09#/' (#(.: #. /#/' (#%G*#E15"/, /(#09# *+, - . /"01# .1+#S, 55".1#Z550- . /"01#09#%"&')#*+, - . /"01#S(5(.)-')5# /' . /#0)&.1"d(+ #/' (#T)Oh(-/7B0)Y5' 0T#"1#>J6R7#g (#. -Y10B3(+&(#/' (# (1&.&(: (1/#09#)(T)(5(1/."! (5#09#/' (#8"1"5)D#09#*+, - . /"01# .1+#G-"(1-(# 09#/' (#S, 55".1#2(+). /"01#;B' 0#T.) /"-T. /(+#"1#50: (#T)Oh(-/7+"5-, 55"015# . /#/' (#B0)Y5' 0T7#E/"#5#T3(.5"1&#/O#10/(#/' . /#50: (#09#/' (#) (5, 3/5#09#/' (# T)Oh(-/7' .! (#F((1# , 5(+#/O#"190): #T03"-D#)(-0: : (1+. /"015#"1#)(3. /"01# /O#/' (#+(! (30T: (1/#09#)(&"01.3# " &')#(+, - . /"01#5D5/(: 5#"1#S, 55".7

@' .1Y5# .350#&0#/0#/' (#b(: .11# 4(1/())90)#*+, - . /"01.3# *1/)(T)(1(,)5' "T# .1+#E110! . /"01#"1#`).d"3# . /#/' (#P).+, . /(#G- 003# 09#*+, - . /"01#;G/.190)+#B' "-' #5, TTO)/(+ #/' (#-01)"F, /"015#09#8.) /"1# 4.)10D# .1+#SOF()#X() "1(;# .1+#/' (#*GS4W%*24*#4(1/())90)# P30F.3#%"&')#*+, - . /"01# . /#/' (#E15"/, /(#09#*+, - . /"01# . /# [1"! ()5"/D# 4033(&(#b01+01;#B')(#G: 01#8.)&"1501#"5#F.5(+7

!"#\$%&'()*+,-./:"0123456789

g (#3"! (#"1#01(#B0)3+7#E+(.5#. 1+#: 01(D#-")-3(#/' ./#B0)3+#"1#: "-)05(-C
01+57#c(/#B(#.)(#5/"33#+!"+"+#"1/0#1./"01C5/./(#, 1"/5#B"/' #9"): #FO, 1+.)"(5#
F(/B((1#/' (: 7#@' ()(#.)(#350#FO, 1+.)"(5#B"/' "1#-0, 1/)"(5#/' ./#.)(#10/#
i, "/(#.5#9"): #.1+#9"^(+7#GO: (#1./"01C5/./(/5#B"/' #h,)"5+"-/"01#O! ()#3.)&(#
&(O&).T' "-#/(/)"(5#, 5(#T.)/3D#+(-(1/).3"d(+9(+).3#5D5/(: 5#O9#&O! ()1C
: (1/;#O)#5O: (/ "1"Y(#9O): .3#9(+).3'5: ;#9O)# "5/O)-.3D#&)O, 1+(+#)(.C

># \$#G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

3(.)1"1&#;-)(+ (1/" .3"1&#. 1+#) (5(.)-' r#g ' ./#.) (#/' (#5T(-.3#T)OF3(: 5#; -' .33(1#. 1+#. +! .1/. &(5#09# ' '&')#(+, -./"01#B"/' "1#. #9(+).3#5(// "1&r# U0#/' (#+"99)(1/#9(+).3#5D5/(: 5#09# ' '&')#(+, -./"01# ' ! (#50: (/ "1&# /O#3(.1#9)0: #(-.' #0/')r

g ' D#+0(5#"/#: .//()#B' ./#' .TT(15#/O# ' '&')#(+, -./"01# "1#9(+).3# 5D5/(: 5r# ` (-., 5(# ' '&')#(+, -./"01#: .//()57#%'&')#(+, -./"01# ' .5# F(-0: (#-(1/).33D#: TO)/.1/#O#9.: "3"(5#. 1+#50-"(/"5#.33#O!)#)' (#B0)3+7# g O)3+B'+(#T.)/"-"T./"01# "1# ' '&')#(+, -./"01# ' .5#+0, F3(+##1#/' (#.5/#/B0# +(-.+(57#E1#=#-0, 1/)"(5#.#&(#-0' O)/#T.)/"-"T./"01#(^-((+5#=#J#T)#-(1/# L8.)&"1501#>J6? ;#>J6?F#W#g O)3+#` .1Y#>J6?N7#805/#1./"01. 3#&O!)1C : (1/5#5((# ' '&')#(+, -./"01# .5#. #T)": .)D# "15/), : (1/#09#1./"01CF, "3+"1&# .1+#(-010: "-#-.T.-"/D#L4.)10D# (/# .37#>J60N7#S(5(.)-' #, 1!")5"/" (5# .) (#5((1#/O#90): #1./"01. 3#(3'/(5#;+)"! (# "1+, 5/D# "110! ./"01#. 1+#5' .T(# 1./"01. 3#-. 3/,) (57# P0!)1: (1/5# B. 1/#nB0)3+C-.355#, 1!")5"/" (5# B"/' # 5, 99"- (1/#-.T.-"/D# "15#-"(1-(# .1+# /(-' 1030&D#90)#/' (# "15"/, /"01# /O# 9#&,) (# "1#&30F. 3#, 1!")5"/D#). 1Y "1&5#LZSg [#>J6=#%#.#d(3Y0)1#>J6=#N7

c(/;# "1#: 05/#9(+). 3#-0, 1/)"(5#;#T, F3#-"#15"/, /"015#09# ' '&')#(+, -C /"01#. 15B()#10/#, 5/#/O#1./"01. 3#&O!)1: (1/#F, /# .350#/O#/' (#T)O! "1-(5# 0)#5./ (57#%'&')#(+, -./"01# "5#n01 (#09#/' 05(#.)(.5# "1#B' '- #FO/' #3! (35# 09#&O!)1: (1/# ' ! (# ' .+#. 1# "1/() (5^#Lg .//5#6HH>#6>N7#GO: (#, 1!")5"C /" (5# (:)&(+#F(90)(#/' (")#T)(5(1/#1./"01. 3#9(+). /"015#B() (#90): (+V# 90)#(^.: T3(# "1#P(): .1D;#E1+" .# 8(^-0;#S, 55'. #Z, 5/). 3'. #. 1+#/' (# [1'/(+#G'./ (57#E1#.#5: .33()#B0)3+;#/' (")#90, 1+"1&#T, F3#-"#+(1"/" (5# B() (#T)": .) "3D#30-. 3W: , 1#-"T. 3#. 1+#5/./ (WT)O! "1-. 37#@' (D#B() (# .350# 5(: "C. , /O10: 0, 5;#3"Y(#. 33#, 1!")5"/" (57#_1-(#9(+). /"015#B() (#90): (+# .5# "15"/, /"015#B"/' #.#T, F3#-#) (: "/;#/' (D#F(-.: (#1./"01. 3# .5#B(337#@') (# "5#01&O"1&#T0/(1/" .3#90)#/(15"01#F(/B((1#/' (#90,)#Y "1+5#09#+(1"/D# "1# T3.Da#1./"01. 3;#T)O! "1-. 3W5/./ (;#30-. 3#. 1+#, 1!")5"/D7#g ' ./#.) (#/' (#9(-/5# 01# "15"/, /"015#;)(5(.)-')5;#5/. Y(' O3+)5#. 1+#5/, +(1/5r#g ' ./#Y "1+5#09# 5/./ (#O)#T)O! "1-. 3#5, FC5D5/(: 5#09# ' '&')#(+, -./"01#.) (#5, 5/. "1(+## "1#.# : O)(#1./"01. 3#. 1+#&30F.#B0)3+r#Z)(#/' (D# "15/), : (1/5#09#9(+). 3#), 3(# 0)#/' (")#0B1#: .5/()r#g ' ./#.) (#/' (##: T3#-. /"015#90)#9 "1. 1-"1&#;. --(55;# i , .3"/D# .1+# "1(i , .3"/D#F(/B((1#) (&"015r#UO#: , 3" T3(#. D)5#09#&O!)1C : (1/#' (3T#O)# "1+()r

@O#(^T30)(#/' (5(#i , (5/"015;#90)#/' "5#FOOY;#B(#5(3(-/(+## "1(-0, 1C /)" (5#B"/' #9(+). 3"5;/#O)# "1#/' (#-. 5(#09# "4' "1.#i , .5"C9(+). 3"5;/#TO3"/-. 3#

5D5/(: 5a#Z, 5/).3".;#`).d"3;#4.1.+.;#4' "1.;#P(): .1D;#E1+.".#8(^"-0;#
S, 55".#.1+#/' (#[1"/(+G./.(57#Z#5.: T3(#09#/' (#: .1D#9(+).3'5/#-0, 1C
/)"(5#1#/' (#B0)3+;#/' (D#(: FO+D#. #B"+(#).1&(#09#T03"/"-.#.).1&(: (1/5#
F(/B((1#30-.3#.1+#-(1/).3#&O! ()1: (1;/#.1+#-01/).5/'1&#/#).+'/'015#"1#
' '&')#(+, -.'/'017

E1#/' (5(#-0, 1/)"(5;#1#B' '- ' #&O! ()1: (1;/#T03"/"-.#.-, 3/.)(#.1+#/' (#(+, C
-.'/'015D5/(: #.)(#.3#T)O+, -/5#09# "5/O)D;#9(+).3'5: #' .5#-' .1&(+#O! ()#": (:#
-' .1&(5#/' ./#'.!(#09/(1#.99(-/(+## '&')#(+, -.'/'017#_1#/' (#B' O3(:#/' (#)O3(#
09#1.'/'01.3#&O! ()1: (1/#1# " '&')#(+, -.'/'01#'.5#5/)(1&/' (1(+;#5T(-".33D#
"1#(+, -.'/'01.3#9"1.1-"1&#F, /#! ()D#-.5(#"5#+99)(1/7#@')(#.)(#-0, 1/)"(5#
B"/' #.#5/.F3(#F.3.1-(#F(/B((1#1.'/'01.3#.1+#5./.(WT)O!"1-.3#(3: (1/5#"1#
' '&')#(+, -.'/'01;#.1+#0/' ()5#B')(#/' (#)(5T(-/' (#)O3(5#09#1.'/'01.3#.1+#
5./.(WT)O!"1-.3#&O! ()1: (1/#5((: #/O#93, -/, ./.(1#Z/#/' (#5.: (#/': (:# '&')#
(+, -.'/'01#1#9(+).3#-0, 1/)"(5#'.5#F((1#5'.T(+##FD#/' (#: (&.C/)(1+5#.99(-/C
"1&#/' (#5(-/O)#(! ()DB')(:#1-3, +"1&#&)OB/' #1#(+, -.'/'01.3#T.)/"-T.'/'01#
O)#n: .55"9"-.'/'01;#&3OF.3'd.'/'01#'.1+#"1/()1.'/'01.3#-0: T(/'/'01#"1# '&')#

Rf \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

09#&O! ()1: (1/"1#/' (#-.5(#5/, +D#-0, 1/)"5;#5, : : .)"d(+##1#@.F3(#676a#
+"99() (1-(5#"1#5/. /(#/). +/"015;#T03"/"- .3#-, 3/ ,)(# .1+#: 0+(#09#9(+().3C
"5: 7#G(-01+;#B(#5' "9#/' (#90-, 5#/O#' "&' ()#(+, -. /"01;#10/"1&#-0: : 01#
B0)3+B"+(#/(1+(1-"(57# @' ") +;#B(#0T(1#/' (#+"5-, 55"01# .FO, /#B' ./#
' .TT(15#B' (1#-' .1&"1&#' "&' ()#(+, -. /"01#5D5/(: 5#"1/()5(-/#B'/' #5/. /(#
/). +/"01# .1+#: 0+(#09#9(+().3"5: 7#@' "5#"1/()5(-/"01#5#(^T30)(+##1#: 0)(#
+(T/' #1#(-. #'-0, 1/)D#-' .T/()7#@.F3(#67>#5, : : .)"d(5#9(+().3#)(3. /"015#
"1#' "&' ()#(+, -. /"01#"1#/' (#1"1(#-.5(#5/, +D#-0, 1/)"(57#g' ./#5/. 1+5#0, /#
"1#/' (#/.F3(#5#/' (#' (/)O&(1("/D#09#: 0+(5#09#9(+().3"5: #. 1+##/' (#F)O. +#
) .1&(#09#T055" F3(#(99(-/5#"1#' "&' ()#(+, -. /"017#E/"5#.350#"1/() (5/"1&#/' ./#
01# .# 1. /"01CFDC1. /"01#F.5"5;#9(+().3#5D5/(: 5#.)(#: 0)(#+"! ()5(#/' .1#
) (#' "&' ()#(+, -. /"01#5D5/(: 5q+(&)((#5/), -/ ,)(5#. 1+##/' (#90): 5#09#/' (#
) (5(.)-' #, 1"! ()5/D#.) (#T.)/3D#-01! ()&"1&7

@' (#-.5(#5/, +("5#"1#/' "5#FOOY# ' ! (#/BO#: T3-./"015#90)#5-' 03.)5' "T7#

1. 1.1



1. 1.2 Federalism in Higher Education, Nine Countries*

| C | L | /C | R | P | P | S | H | B | BH |
|---------------|---|------------------------------------|------------------------------------|-------------------------------------|-------------------------------|---|--------------------------------------|---|----|
| C | R | C | R | C | P | S | H | B | BH |
| United States | States | Shared, largely state, stable | Shared, largely state, stable | Shared, national research and loans | Largely deregulated | | High stratification, high diversity | | |
| Canada | Provinces | Shared, largely provincial, stable | Shared, largely provincial, stable | Shared, national research, student | Provincial regulation | | Mid stratification, mid diversity | | |
| Australia | States in most matters | National, stable | National, stable | National, less than 5% state | Nationally regulated | | High stratification, low diversity | | |
| Germany | Länder (states) | Shared, negotiated | Shared, negotiated | Shared, national is growing | Small, Länder regulated | | Low stratification, binary diversity | | |
| Russia | National and regions | National (with contingent gaps) | National (with contingent gaps) | National, less than 5% regional | National has main role | | High stratification, high diversity | | |
| China | National, partly devolved | National, stable | National, stable | Shared, national research and WCU | Nationally regulated | | High stratification, mid diversity | | |
| India | National | Fluctuates, complex | Fluctuates, complex | Shared, largely state | Large, mostly state regulated | | High stratification, mid diversity | | |
| Mexico | BT 0 9 m /Tc2 1 Tf (Shared, n11 Tf (Higonal anrsn, mid(d anrsn, f (Shared, n11 Tf (1 Tf 378.157Tm /Tc2 1 Tf (regulated) | | | | | | | | |

5./.(5WT)O!"1-(5#.1+##/' (#: (.15#09#1./"01.3#-00)+ "1./"01#.1+##-01/)037#
@' ") +;#FO/' #T03"/"- .3#-, 3/,)(#.1+##: 0+(#09#9(+().3"5: #: .D#-' .1&(#O! ()
/" : (;# (5T(-".33D#/')O, &' #: .hO)#5' 0-Y5#5, -' # .5# B.)5# .1+## (-010: "-#
+(T)(55"0157#@' (#9")5#/B0#-. , 5(5#09#! .)./"01#.)(#10B#+ "5-, 55(+7#@' (#
/' ") +;# "5/0)"-.3#/) .1590): ./"01;"#5#.++) (55(+#"1#/' (#-0, 1/)D#-' .T/()57

E1#)(3./"01#/O#5/./(#/DT(5#.1+##T03"/"- .3#-, 3/,)(5;#/' ()(#.)(#/')((#F)O.+#
&)O, T"1&5#09#-0, 1/)"(5#"1#/' "5#5/, +Da#2")5/;#/' (#3: "/(+##3"F () .3#5/./ (5;#
Z, 5/).3".;# 4.1.+.#.1+##/' (# [1"/(+#G/./ (5;# B"/' # P(): .1D# .5# .#50-.3#
: .)Y(/#-0, 5"1V#5(-01+;#-0, 1/)"(5# B"/' #.#/).+/"01#09#-0: T)(' (15"! (#
5/./ (5q 4' "1.#.1+##S, 55.V#/' ") +;#T05/C-0301".3#5/./ (5q `).d"3;#E1+"#.1+##

O# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

G./.(57#%0B(! ();#/' (#)3./"015' "T#F(/B((1#&0! ()1: (1/#.1+#/' (#-.T"/.3C
"5/#(-010: D#5#10/#5D: : (/)"-.37#g ' "3(#/' ()(#5#50: (#TO/(1/"3#90)#50-.3#
+(: 0-)./"-#T03"-D;#/' ()(#5#. #T)": .#9.-" (#F".5#"1#9.!0,)#09#-01+, -/"1&#
50-.3#.-/"!"(5#/')0, &' #(-010: "-#: .)Y(/57#*! (1#5./(/#"1/!)! (1/"01"5#
09/(1#T)(5(1/(+#B/' "1#. #) (/0)"-#09#+())(&, 3./"01#.1+#: .)Y(/#T)": .-D7#
E/"5#+ "99"-, 3/#90)#3": "/(+ #3"F().3#5./(/5;#, 1"/.)D#0)#9(+().3;#/0#"1/()9()#
B"/' #/' (#9)((+0: #/0#).+(:#.1+#/' (D#/03()./(/#-0)T0)./(/#"1/()9() (1-(#"1#

-0, 1/)"(5# .1+#9(+).3"5: # "1#P(): .1D#"5#3(55# "().)-' "-.3;#B"/' #: 0)(#
5-0T(#9)F0/0: C, T+#(/): "1./"017#g ' "3(##' (#3: "/(+#3F().3#-0, 1/)"(5#
T05"/"01#' '&')#(+, -./"01#15"/, /"015#50: (B')(#F(/B((1#5/./(#.1+#
-!"3#50-"/D:#B"/' #' (#Z:)-.1#, 1!)05"/"5#/' (#-305(5#/0#-!"3#50-"/D;#
' '&')#(+, -./"01#5#5((1#5# .1#., /010: 0, 5#5(-/0)#09#5/./(#"1#P(): .1D7

E1#-0: T)' (15!"(5#./.(5:#&0!)()1: (1/#(^()-"5(5#., /' O)"D#"1#.#' 03"5"/-#
: .11()7Z/#: 05/;#/#/ .Y(5#9, 33#)(5T015"F"3/D#90)#/' (#T)05T()"/D;# (.3/' #
.1+#0+)()3D#9, 1-/"01"1	#50-"/D# .1+#(-010: D7#E1#-0: T)' (15!"(5#
5/./.(5#5, -' #.5#4' "1.#.1+#S, 55" .;#/' (#F0, 1+.)"(5#F(/B((1#5/./(;#(-010: D#
.1+#50-"/D#.)(#: 0)(#T)0, 5#/' .1#/' (D#.)(#"1#3: "/(+#3F().3#5/./.(57#LE1#
<0)+"-#2"13.1+;#.#50-".3#+(: 0-)./"-#!.)".1/#09#/' (#-0: T)' (15!"(5#./.(#
/).+/"01#10/#"1-3, +(+#"1#/' "5#FOOY;#n5/./(#.1+#n50-"/D#.)"#+(1/"C
-.37N#4(1/).3"d(+#., /' O)"D#"5#")(+, -"F3(7#@' (#-0: T)' (15!"(5#./.(#FD#
+(9"1"/"01#-.110/#T.)"/"01#"/5(39#&O!)()1: (1/#"5#1#-0: : .1+#!"5CsC!"5#
' / (#(-010: D;# .3/' 0, &' #"/5#.&(1+.5#.)(#09/(1# .+! .1-(+##/')O, &' #' /' (#
F,)(. , -)./"-#5/./(#)./')#/' .1#/' (#90): .3#T03"/"- .3#3(.+)5' "T;# .1+##')(#"5#
. #1./,).3#3: "/#0#5/./.(#)T)O!"1-.3#1+(T(1+(1-(7#@' (#-0: T)' (15!"(5#
5/./.(#+0(5#10/#1(-.55.)"3D#+")(-#(!)D/' "1)O: #.FO!(#)T)O&): : (#
50-"/D#"1#+(/."3#0)#' .F"/. .33D#"1/()! (1(#"1# : .1D#5T') (57# <0)#"5#"/#
1(-.55.)"3D# .550-"/(+##B"/' # ., /' O)"/.).1#), 3(7# 40: T)' (15!"(5#./.(5#
) (# .550-"/(+##B"/' #FO/' # (3(-/0).3#+(: 0-).-D# .1+#01(CT.)/D#)&": (57#
%0B(!)#/' (#3. B#/(1+5#0#F(#5, FO)+ "1./(#/0#/' (#5/./(#10/#!"-(!)5.7

E1#/' (#*.5/#Z5".1# .1+#S, 55".1#!.)".1/#09#/' (#-0: T)' (15!"(5#./.(#
' /)(#.)(#9(B)F.))"O5#/0#5/./(#. -/"01;"1-3, +"1/()! (1/"01#"1# : .)Y(/#
(^-'.1&(#.1+##-!"3# : .//()5;# .1+##/' (#5T')(#09#T)!"./(#3"9(#.1+#T)OT()/D#

6J# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)100

5' .T(+FD#4' "1(5(#4"! "3"d./"01#LP()1(/#>JJ>N#@' (#T.//()1#09#+(!OC
3,/"01#"5#. #/' 0, 5.1+#D(.)5#03+7#Z9/()#/' (#@.1&#UD1.5/D#L?6QKHJI# N#
+(-3"1(+B' (1#"/#305/#-01/)03#09#"/5#: "3"/.)D#3(. +()5#"1#/' (#FO)+()3.1+5;#
/' (#G01&#UD1.5/D#LH?JK6>IH# N#-01-3, +(+#/' ./#B' ./#B.5#1((+(+B.5#
10/#: 0)(#1/(15"! (#-01/)03#)0: #' (#-(1/)(#F,/#: 0)(#99(-/"! (#+(!03, C
/"01#L`30-Y: .15#.1+#+(#G (()+/#>J6?N7#E/#(!03! (+#50T"5"-./(+#5D5/(: 5#
09#+(!03! (+#30-.3W)(&"01.3#+(-"5"01C: .Y"1&#"1#B' "-' #--(1/).3#-01/)03#
B.5#: ."1/."1(+7#@' (#-(1/).3#&0! ()1: (1/#: .1.&(+ #-0: : 01#5D5/(: 5#
L"1-3, +"1.1&, .&(;# , 1"/5#09#: (.5,)(#9"1.1-"3# (^-' .1&(;#/. ^./"01;#
3.1+#.1+#T)0T()/DN#.1+#)(/."1(+##/' (#5-0T(#/0#"1/()! (1(#.1DB')(#/0#
5(-,)(#0)+()#.1+#T)05T()"/D7#_/')B"5(;#/' (#T)0!"1-(5#&0! ()1(+##/' (")#
0B1#.99.)57#@' (#G01&#UD1.5/D#F, "3/#/' (#-.T.-"/D#09#/' (#T)0!"1-(5#FD#
(^T.1+"1&#.1+#/)."1"1&#/' (#30-.3#&0! ()1"1&#(3'/(#B' "3(#)(/."1"1&#-01/)03#
0! ()#T()5011(3#5(3(-/"01#.1+#T)0: 0/"017#@' (#T)0!"1-.3#(3'/(#) (: ."1(+#

5/./(#T.)3D#)(/.(+#9)O: #T)O!"+"1Z)#/' (#B(39.)(#09#/' (#TOT, 3./"01#
LEdD, : O! #>J6JN;#/' ()(#B.5#+(- (1/).3"d./"01#/O#5(39C+(/): "1"1&# (&"015#
E/#. TT.)(+##/' (#-O: T)(' (15! (#5/./(#).+/"01#'.+#F((1#: O+"9" (+7#` , /#
"/#5001#F(-.: (#. TT.)(1/#/' ./#/' (#. , /' O)" /D#. 1+#TO/(1/" .3#5-OT(#09#/' (#
5/./(#B.5#3'/3(#+": "1"5' (+7# Z9/()#/' (#D(.)#>JJJ;#/' (#S, 55". 1#-(1/)(#
)(-01503"+./(+#TOB)#! "5CsC! "5#/' (#)(&"015:#B' "-' #B()('# "5/0)"-. 33D#3(55#
. , /O10: 0, 5#/' .1#/' (")#-0, 1/()T.)/5#"1#4' "1.7#@' (#9(+(). 3#5D5/(: # "1#
S, 55". ;#B"/' #, 1(! (1#3(! (35#09#)(&"01.3#. , /O10: D;#5#. 350#3(55#-015"5/(1/#
' .1#T)O!"1-". 3#+(- (1/).3"d./"01#"1#4' "1.7#Z3#S, 55". 1#' '&' ()#(+, -./"01#
"5#T05"/"01(+#, 1+())#1./"01.3#-01/)03#D(/;#1#T.)/5#09#/' (#-0, 1/)D;#)(&"01.3#

E1)0+, -/'01# \$# 60

1./"01.3#(! (3q ' .+#. 1#"1+(T(1+(1/#(&.3CT03"/"- .3#(^"5/(1-(#T)"0)#/O#/' (#

6R# \$# G": 01#8.)&"1501#. 1+#8.)/"1#4.)10D

GD5/(: 5#09#&O! ()1.1-(#.1+#: .1.&(: (1/#(! ()DB' ()(#/,)1#01##(!03! (+#
., /' 0)/D7

@' ()(#.)(#.350#3": "5#/O#)(3".1-(#01#30-.3##+(-"5"01C: .Y"1&7#b0-.3"/"(5#
.1+#"1C-0, 1/)D#)(&"015#&."1#9)0: #F(301&"1&#/O#.#3.)&()#(1"/D7#
4015"5/(1/#3(&.3#.1+#9"1.1-"3#.)).1&(: (1/5#: .^": "d(#9)((+0: #09#
: 0! (: (1/#B"/' "1#/' (#1./"017#40: : 01#-)055C)(&"01.3#"19).5/), -/.)(#
.1+#5D5/(: 5#L(7&7;#"1# /).15T0)/#.1+#-0: : , 1-"./"015#M#.)(#(55(1/"37#
G/.1+.)+"d(+#10: (1-3./,)(#.1+#5/), -/.)(#590)#, 1!"(5"/D#/"#3(5#.1+#
+(&)((5#F(1(9"/#.#37#S(&"015#-.1#5' .)(#/' (#-05/#09#-0: : 01#T)O!"5"01#;
(5T(-."33D#"1##(9(1-(#.1+#0/')#9, 1-/"015#B"/' #.1#1/()1./"01.3#1"/()9.-(7#
S(&"015#F(1(9"/#)0: #(-010: "(5#09#5-.3(#1#3.)&()#: .)Y(/5#.1+#1./"01.3#
(-010: "-#: .1.&(: (1/#"1-3, +"1&#/' (#F)OY()#1	#)(3./"015#F(/B((1#
30-.3"/"(5#.1+#1C-0, 1/)D#)(&"015#B"/' #+"99()#1&#)(50,)-(5#.1+#5T(-."3'd.C
/"015#<./"01.3#&0!()1: (1/5#-.1#: .1.&(#(i, "/D#.1+#(15,)(#/' ./#T00)()#
)&"015#F(1(9"/#)0: #/' (#5, --(55#09#)"-')#01(57#@' (5(#1./"01.33D#0)+()(+
9.-/0)5#-.110/#F(#.-"(!(+#(99(-/"(3D#01#.#5T01/.1(O, 5#F.5"5#9)0: #5./(/W
T)O!"1-.3#3!(3#0)#/')0, &' #-)055C5/./(#T03"-D#F0))0B"1&#.301(7

@' (#i, (5/"01#09#/' (#.TT)OT)"./(#3(! (3#09#&O! ()1: (1/#"5#(.5D# /O#
)503! (#B' (1;#"1#/' (#: ./()#-01-()1(+;#01(#3!(3#09#&O! ()1: (1/#"5#
-3(.3D#: 0)(#(99(-/"(7#%0B(! ();#/' ()(#"5#.#&)(D#.)(./()5#B')(#
(99(-/"(#+(-"5"015#-.1#F(#: .+ (#./#(' /')#5/./(#WT)O!"1-.3#0)#1./"01.3#
3!(3#F, /;#90)#/' (#T, F3-#&00+;#+(-"5"015#: .D#5/"33#1((+##/O#F(#: .+ (#./#
1./"01.3#3!(3;##(5T"/(#5, F5"+.)"/D7

Z33#9(+().3#0)#i, .5"C9(+().3#1./"015#-033(-/#+./#-0: T.)"1&#/' (#(-010: "-#
.1+#50-."3#T05"/"01#09#/' (#+"99() (1/#)(&"015#F#G, -' #+./.#09/(1#"1-3, +(5#)./(5#
09#(+, -./"01.3#T.)/"-T./"017#%0B(! ();#1/())&"01.3#(i, "/D#'.5#: 0)(#
/' .1#01(#: (.1"1&#.1+#5#: 0)(#:#: TO)/.1/#1#50: (#-0, 1/)"(5#/' .1#0/')57

2(+().3#.1+#i, .5"C9(+().3#5D5/(: 5#!.)D#"1#/' (#(^/(1#/O#B' "-' #/' (D#
(1&.(#&"1#T03"-"(5#.1+#T)O&): : (5#+(5"&1(+##/O#(i, '3'd(#/' (#-01+"#015#
09#3"9(#F(/B((1#/' (#+"99() (1/#5/./(#5#0)#T)O!"1-(5;#90)#(^: T3:(#FD#T)OC

67# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

(+, -./"017#20)#(^.: T3(:#1#Z, 5/).3".1#&0! ()1: (1/;/# 1#": TO)/.1/#T)"1-C
T3(#09#9(+).3#&0! ()1: (1/#5#9"5-.3#(i, .3"d./"01\q 9, 1+"1&#).).1&(: (1/5#
/'./#-0: T(15./(#T00)()#5/./ (5#. 1+#5/./ (5#B')(#/' (#-05/#09#5()!"-(5#"5#
' '&' #F(-., 5(#09#&(0&).T' "-.3#+ "5T()5"01#0)#30B# TOT, 3./"01#+ (15"/D#
L8./' (B5#6HQ6N7#P(): .1D#.350#": 5#/0#T)0!"+(#(i, "! 3(1/#-01+"/"015#
09#3"9(#.--0)+"1&#/0#1./"01.3#5/.1+.)+57#@' (#T00)()#5/./ (5#09#8(^-0#
)(-("!(#-0: T(15./)D#1./"01.3#&0! ()1: (1/#9, 1+"1&#;3' 0, &' #)(#&"01.3#
+"5T.)"/'(5#)(: ."1#3.)&(7#_1#/' (#0/')#'.1+;#"1#/' (# [1"/(+ #G./ (5;
B')(#/')(#.)#(.)Y(+##+99() (1-(5#F(/B((1#/' (#5/./ (5#1#/' (#, 1"01#.1+#
)(&"015#B"/' "1#5/./ (5#1#B(.3/' ;#1-0: (#.1+#5()!"-(#T)0!"5"01#L"1-3, +"1&#
.--(55#/0#)(5(.)-' #, 1"! ()5"/(5N;#1./"01.3#&0! ()1: (1/#5#10/#(^T(-/(+ #/0#
(i, .3"d(#)(50,)-(5#0)#5()!"-(#T)0!"5"01#L` (1/(3(#>J60N7#g` "3(#)(#&"01.3#
"1(i, .3"/(5#.)(#T.)/#09#T03"-D#+ "5-, 55"01#"1#4' "1.#.1+#S, 55";#/' 05(#
"1(i, .3"/(5#-01/"1, (;#"1-3, +"1"&1"9"- .1/#+"5T.)"/(5#1#/' (#T)0!"5"01#
09#+(&)((#3(! (3#.1+#)(5(.)-' #, 1"! ()5"/D#(+, -./"017#E1#4' "1.;#/')(#.)(#
5/"Y"1&##+99() (1-(5#F(/B((1#T): .)"3D#,)F.1#.1+#T): .)"3D#, .)3#T)0! C
"1-(5#LP, 5/.95501#.1+#<"!0)0d' Y"1.#>J66W#@)(": .1#>J6>N7

G(-01+;#: 05/#9(+).3#1./"015# .350# -015'+()#.#+99() (1/#.1+#: 0)(#
3": "/(+ #10/"01#09#(i, "/Dq (i, .3"/D#"1#/' (#T, F3"-#)(50,)-(5#T)0!"+(+ #
01#.#T()#-.T"/.#F.5"57#@')(#5#. #T0/(1".3#/(15"01#F(/B((1#/' (#&0.3#09#
(0.3T)B.T"/.)("/: (./3)#&, ". #: (0.(5)3(")3(/.)3(T)3(O)3(/)3(")3".#: 09#

60# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

Z5#/' "5#5, &&(5/5;#. #5(-01+#90): #09# -00)+"1./"01#.1+#"1/()&0! ()1C
: (1/.3#.3"&1: (1/#.1+#-01/)03#3" (5#"1#/' (#"1.1-" .3#) (3./"015' "T#F(/B((1#

E1)0+, -/'01# \$# 6H

Z5# 10/(+;#/')((#F)0.+#/(1+(1-"(5# -,))(1/3D#.99(-/#' "&' ()# (+, -./"01#
5D5/(: 5#.-)055#/' (#BO)3+a#/' (#-01/'1, "1&#&)0B/' #O9#50-" .3#T.)/"- "T./"01#
"1#' "&' ()# (+, -./"01#L: .55"9"-./"01N;#&30F.3"d./"01#.1+#: .)Y(/"d./"01#
L4.)10D# (/# .37#>J60N7#@' (5(#/(1+(1-"(5# .)(# -01/(/, .33D# -01/"1&(1/#

>J# \$#G": 01#8.)&"1501#.1+#8.)/"#4.)10D

/')(#5#10#/(1+(1-D#O#&)(./()# 'O)"d01/.3#+!"(5)/D#09#: "55"01#O)#/DT(7#
E15/(.+;#/' (#3.)&(#-O: T)(' (15!" (#.1+#09/(1#&)OB"1#&: ,3"/T,)TO5(#
)5(.)-' #n: ,3/"!(5)/D#L])(#6H?OW>JJ6N#5#"1-).(5"1&3D#+O: "1.1/"#1#
"15"/,/"01.3#90): 7#G"1&3(#T,)TO5(#.1+#101C, 1!"(5)/D#"15"/,/"015# ' ! (#
305/#&)O, 1+7#b.)&()#: .55"9"(+# ' "&')#(+, -./"01#5D5/(: 5#1((+#: O)(#
50T"5/"-./(+#: ,3/"!(3#-OO)+1./"01;"#1-3, +1#&'/' (")#9(+).3#&O!)1C
.1-(7#8.55"9D"1&#"15"/,/"015#10/#O13D#/.Y(#"1#: O)(#09#50-"(D#"1#/(): 5#
09#5/, +(1/5;#/' (D#(1&.&(#B"/' # #: O)(#(^/(15!" (#&)O, T#09#5/.Y(("O3+)5#
L4.1/B(33#(/#.37;#90)/' -O: "1&:#4' .T/()5#OK?N7

8.55"9"-./"01#-)(./5#-O: T3(^/"(5# .1+#/(15"015#"1#/' (#)3./"015#
F/(B((1#5/./5WT)O!"1-(5#.1+#1./"01.3#., /' O)"(57#E1#.33#/' (#5D5/(: 5#"1#
/' "5#FOOY;#/' #.5#90)-(+#5/./(#.1+#T)O!"1-.3#&O!)1: (1/5#F(DO1+#/' (")#
#.T.-/Dq 10#1./"01#-.1#9"1.1-(# ' "&' #T.)/"-T./"01# ' "&')#(+, -./"01#
(1/"(3D#.#5/./(#O)#T)O!"1-.3#3(! (3q /') (FD#T)O: O/"1#&.#&)OB"1#&)O3(#9O)#
/' (#1./"01#1#9"1.1-"1&:#F)"1&"1&#B"/' #/#&)(./()#1./"01.3#TOB)#"1#TO3"-D#
.1+#)&, 3./"017#@' (#(^/(1#09#/' "5#T)O-(55# !.)"5#FD#-O, 1/D7#E1#: 05/#
9(+).3#-O, 1/"(5;#: .55"9"-./"01#5#.35O#F((1#550-"./(+B#/' #.#/(1+(1-D#O#
: .)Y("d./"017#Z5#+(: .1+#9O)# ' "&')#(+, -./"01# .5#(^T.1+(+B)O)3+B'+(#
.1+#&O!)1: (1/5# ' !(#-O, 1/(+##' (#9"1.1-"3#-O5/5#09#/' (#50-"3#T)(55,)(#9O)#
(^T.15"01;"#1#5O: (#-O, 1/"(5#L(7&7;#Z, 5).3".# .1+##' (#[1"/(+#G/./5N;#/' (D#
' ! (#1-)(.5(+##, /"01#9(5;#.1+;"#1#O)/')5#L(7&7;#-).d"3;#E1+"#.1+;#O#50: (#
(^/(1;#8(^"-ON;#/' (D# ' ! (#)3(+#01#/' (#(^T.15"01#09#T)!"/(3D#T)O!"+(+
' "&')#(+, -./"01#9"1.1-(+3.)&(3D#FD#, /"017#2((CF.5(+#T3.-5;#)&, 3./(+
FD#1./"01.3#&O!)1: (1;/# ' ! (#350#T3.D(+#.1# .h, 1-/#)O3(#"1#/' (#&)OB/' #
09#T.)/"-T./"01#9"1#S, 55".# .1+#4' "1.#"1#FO/' #T, F3"-#.1+##T)!"/(5(-/O)57

8.55"9"-./"01#"5# .--O: T.1"(+# FD#"1-).(5(+##T03"/"-3#T)(55,)(#9O)#
&)(./()#(i, "D#"1# ' "&')#(+, -./"01;#.5#+5.+.1/.&(+##&)O, T5#-O: T3(/(#
5(-O1+.)D#5-' 003"1#&F, /#9"1+##.-(55#/O# ' "&')#(+, -./"01q (5T(-.33D#
: O)(#T)(5"/&"O, 5#"15"/,/"015q F30-Y(+##FD# .-.+(: "-#.1+#9"1.1-"3#
F.)"57#Z5#10/(+;##T03"/"-3#+(: .1+5#9O)#&)(./()#(i, "D;#(^T)(55(+.#5#
1./"01.3# O! (: (1/5;#-.1#)"&&()#"1-).(5(+##-(1/).3#&O!)1: (1/#3(&"53.C
/"01;"#9"1.1-"1#&.1+##T0B)7# 8.55"9"-./"01#.350#&(1)./(5#"55, (5#.FO, /#
i, 3"/D#.1+##"5# : .1.&:((1/7#Z3/' O, &' # "1# : 05/#9(+).3#-O, 1/"(5#/' (#
90): .3#+(-5"01#0#(^T.1+## ' "&')#(+, -./"01#5#: .+ (#.#5/./(#O)#T)O!"1-"3#
3(! (3;#/' (#&)OB"1#&)O3(#09#1./"01.3#&O!)1: (1/#).5(5#i, (5/"015#.FO, /#
/' (#+&)(#1./"01.3#., /' O)"(5#5' O, 3+## O3+##O-.33D#F.5(+#.1+##-O1)O33(+
"15"/,/"015#.-O, 1/.F3(7#g' O#5' O, 3+##(9"1(#/' (#/): 5#09#.-O, 1/.F"3/Dr#

E1)0+, -/'01# \$# >6

/ (#5/. / (WT)O! "1 - . 3# [13"Y(# . 55"9" - . / "01# . 1 + # & 30F . 3" d . / "01# : # / # + 0 (5# 10 / # - 01 / . "1# . # T) : . #9 . - " (# / (1 + (1 - D # / O # &) O B # / ' (#) O 3 (# O 9 # 1 . / "01 . 3 # & O !) () 1 C : (1 / ; # F , / # : .) Y (#) (90) : # " 5 # O 9 / (1 # 5 ' . T (+ # F D # (- 0 1 0 : " - # , 1 " / 5 # . // . - ' (+ # / O # 1 . / "01 . 3 # 9 " 1 . 1 - (# O) # (+ , - . / "01# : " 1 " 5 /) " (57 # P () : . 1 D # 5 # , 1 , 5 , . 3 # " 1 # / ' . / # 5 / , + (1 / # , " / " 01 # 5 # (1 /) (3 D # . # " (% &) * C 3 (! (3 # : . // () 7 # * ! (1 # " 1 # / ' (# + (- (1) . 3 C " d (+ # [1 " / (+ # G / . / (5 ; # / ' (# 1 . / "01 . 3 # L 9 (+) . 3 # # & O ! () 1 : (1 / # & O ! () 1 5 # / , " / " 01 # 9 " 1 . 1 - " 1 & # . 1 + # 5 / , + (1 / # 5 , T T O) / # ! " . # 30 . 1 5 # . 1 + # &) . 1 / 5 7

@ . Y (1 # / O & (/ ') ; # : . 55 " 9 " - . / " 01 # ; # & 30 F . 3 " d . / " 01 # . 1 + # : .) Y (/ " d . / " 01 # : . Y (# ' " & ') # (+ , - . / " 01 # : 0) (# - (1) . 3 # / O # 1 . / " 01 . 3 # 5 (39 C " 1 / () 5 # . 1 + # 5 / (1 & / ' (1 # / ' (#) O 3 (# O 9 # 1 . / " 01 . 3 # & O !) 1 : (1 / # B " / ' " 1 # 9 (+) . / (+ # 5 D 5 / (: 57 # % " & ') # (+ , - . / " 01 # ' . 5 # F (- 0 : (# " 1 5 / . 3 3 (+ # " 1 # / ' (# 5 /) . / (& " 5 # O 9 # (- 0 1 0 : " - # : " 1 " 5 /) " (57 # G " / ' # / ' (# Y 10 B 3 (+ & (# : . + (# F D # , 1 " !) 5 " / D #) (5 (.) - ') 5 # 5 ((1 # . 5 # (5 5 (1 " . 3 # / O # 1 . / " 01 . 3 # + (9 (1 - (# (- 0 1 0 : " - # &) O B / ' ; # ' (. 3 / ' # - .) (# . 1 + # (- 0 3 O & D ; # . 1 # .) : 5 #) . - (# " 1 # " 110 ! . / " 01 # ' . 5 # + (! (30 T (+ ; # B " / ' # / ' (# 5 - 0) (- .) + # 5 (/ # F D # 1 . / " 01 . 3 # S t U # 5 T (1 + " 1 & # . 5 # . # T) O T O) / " 01 # O 9 # P U A ; # / ' (# . 1 1 , . 3 # O , / T , / # O 9 # 5 - " (1 - (# T . T) 5 # . 1 + # , 1 " !) 5 " / D #) . 1 Y " 1 & 57 # @ ' (# " 1 -) (. 5 " 1 & # 9 , 1 + " 1 & # 1 ((+ (+ # / O # 9 " 1 . 1 - (# 5 , - ' #) (5 (.) - ' # - . 1 # O 1 3 D # - 0 : (# 9) O : # 1 . / " 01 . 3 # & O ! () 1 : (1 / 57 # @ ' (# 3 (! (3 # O 9 # T .) / " - " C T . / " 01 # 1 # (+ , - . / " 01 # 5 # . 10 / ') # d O 1 (# O 9 # 1 / () 1 . / " 01 . 3 # - 0 : T (/ " 01 # 4 .) 10 D # . 1 + # S ' O / (1 # > J J ; # = N ; # . 1 + # : 0 5 / # & O ! () 1 : (1 / 5 # 5 (/ # 1 . / " 01 . 3 # / .) & (/ 57 # 2 ,) / ') # ; . 5 # 10 / (+ ; # (i , " / D # " 1 # T .) / " - " T . / " 01 # - . 1 # O 1 3 D # F (# 9 9 (- / " ! (3 D # . + +) (5 5 (+ # O 1 # . # 5 D 5 / (: # B " + (# F . 5 " 57 # % O B (!) ; # / ' " 5 # / (1 + (1 - D # / O B .) + 5 # 1 . / " 01 . 3 # & O ! () 1 : (1 / # . 1 + # / ' (#) . / (# O 9 # - ' . 1 & (# ! .) " (5 # 9) O : # - 0 , 1 /) D # / O # - 0 , 1 /) D # . 1 + # " 1 5 " / , / " 01 # / O # " 1 5 " / , / " 01 7 # @ ' (# / (1 + (1 - D # " 5 # 5 /) O 1 & # " 1 # Z , 5 /) . 3 " ; # 4 " 1 . # . 1 + # ~) . d " 3 ; # T .) / " . 3 3 D # . T T .) (1 / # " 1 # 4 . 1 . + . ; # S , 5 5 " ; # E 1 + " . # . 1 + # 8 (^ " - 0 ; # . 1 + # 3 (. 5 # / . T T .) C (1 / # " 1 # P () : . 1 D # . 1 + # / ' (# [1 " / (+ # G / . / (57 # % O B (!) ; # " 1 # : 0 5 / # O 9 # / ' (# 9 (+) . 3 # - 0 , 1 /) (5 # " 1 # / ' " 5 # F O O Y ; # / ' (# (^ T . 1 + " 1 & #) O 3 (# O 9 # 1 . / " 01 . 3 # & O ! () 1 : (1 / # ' . 5 # 10 / # (3 " : " 1 . / (+ # / ' (# 5 / . / (WT)O! "1 - . 3 # 9 . - / 0) ; # : () (3 D # 5 " 9 / (+ # / ' (# F . 3 . 1 - (7 # @ ' (# 9 (+) . 3 # 3 . 1 + 5 - . T (# 9) # " & ') # (+ , - . / " 01 # 1 5 " / , / " 01 5 #) (: . " 1 5 # - 0 : T 3 (^ # . 1 + # ' . 5 # / ' (# T O / (1 " . 3 # / O # / ') O B # , T # . # F) O . + #) . 1 & (# O 9 # " 5 5 , (5 # " 1 # 9 , / ,) (7 # @ ' (#

>R# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

/' (#/(15"01#F(/B((1#)(&"01.3#+(! (30T: (1/#.1+#nB0)3+C-3.55#, 1"! ()5"/D#
T03"-D#"1#S, 55".7%#0B#-.1#9(+).3"5/#-0, 1/)"(5#F"1+##/' (")#+(- (1/).3"d(+
, 1"! ()5"/(5#/O#/' (#1./"01.3#T)Oh(-/r#%0B#+O#5/./(#.1+#T)O!"1-.3#&O!C
()1: (1/5#T,)5, (#-0') (1/# T03"-D#.&(1+.5# B' (1#/' (D#.)(#-01/"1, .3D#
O!)+(/): "1(+#. /#1./"01.3#3(! (3r#U0(5#/' (#, 1"! ()5"/D#: (+./(#1./"01.3W
)(&"01.3#/(15"015;#0)#"5#/' ./#.#: ./()#9O)#&O! ()1: (1/r#g ' "-' #&O! ()1: (1/r

GO: (/": (5#/' (#+"99() (1-(5#F(/B((1#1./"01.3#! .3, (5#.1+#)(&"01.3W30-.3#
! .3, (5#.)(#/00#5' .)T#/O#9"1(55(7#20)#(^.: T3(;#"1#6H?>#/' (# [G#1./"01.3#
&O! ()1: (1/#5(1/# [G#: .)5' .35#/O#(5-0)/#. #F3.-Y#5/, +(1;/#j.: (5#8() (+"' ;#
"1/O#/' (# [1"! ()5"/D#O9#8"55"55"TT"#, 1+()#. #9(+).3#-0,)/#O)+()#O#).-" .3D#
"1/(&)./ (#/' (#, 1"! ()5"/D7#@' (# [1"! ()5"/D#.1+#G/./(#O9#8"55"55"TT"#OTT05(+
/' (#9(+).3#O)+()7#g ' "-' #B(! (3#O9#&O! ()1: (1/#5' 0, 3+#T) (! "3#"1#5, -' #-")C
-, : 5/.1-(5r#80)(#&(1().3D;#B' ./#.) .1&(: (1/5#F(/B((1#1./"01.3#.1+#
)(&"01.3#&O! ()1: (1/5#.)(#OT/' : .3#"1#5' .T"1&#/' (#&)OB/' #.1+##-' .).-/()#

>?# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

3(&"53./,)(57#G/./(#3.B5#/. +"/"O1.33D#&O! ()1#. +: "55"O15#T03"-"(5#.1+#5(/#
/, "/"O1;#.3/' O, &' ;#.5#10/(+;#/' (#9(+().3#h, +"-.)D#1/()! (1(+##1#/' (#6H?J5#
/O#9O)-(#+(5(&(&./"O1#O9#T, F3"-#.1+#T)! ./(#, 1"! ()5"/"5#"1#/' (#GO, /' 7#

E1)0+, -/"01# \$# >l

@' (#5"/, ./"01#1#P(): .1D#5#: 0)(#-0: T3(^#1#/' ./#P(): .1D#5#T.)/#
09#/' (#* [#. 1+#T.)/"-T./ (5#1#/' (#` 030&1.#A)0-(55#09#' 0: 0&(1"d"1&#
' "&' ()#(+, -./"01#5/), -/,) (5#. 1+#)(i, ") (: (1/5#.-)055#.33#-0, 1/)"(5#. 1+#
T)0&).: : (57#P(): .1#

E1)0+, -/"01# \$# >H

.#5T./".3#90): #F.5(+#01#: 0F"3"/D7#S(&"01.3#15"/", /"015#(+, -./(#5/, +(1/5#
"1#30B())#5/./, 5#"15"/", /"015#90)#T)": .)"3D#30-.3#(: T30D: (1/7#@' (#013D#
.1/" +0/(#/O#/' "5#&)0B"1&#"1(i, .3"/D#"5#T03"- (5#/' ./#B"33#3"9/#/' (#i, .3"/D#

01#01(#.1+#&0!)1: (1/#.30B5#30BCi, .3"/D#T)"!./(#' "&')#(+, -. /"01# /O#.F50)F#.1#"1-).5"1).-/"01#0#95/, +(1/5#50#/' .#/' (#T, F3-#5(-/O)# +0(5#10/#' .!(#/O#5T(1+#.5#: , -' #01#' "&')#(+, -. /"01#T)O!"5"01#L&O.35# "5#/O#(^T.1+#F, /#5.!(#T, F3-#: 01(DN7#_1#/' (#O/')#'.1+;#&0!)1C : (1/#B.1/5#/O#(1'.1-(#50-".3#(i, "/D#F(/B((1#30BC#.1+#' "&' C"1-0: (# 5/, +(1/5#L&O.35#"5#/O#: .Y(#T.)/"-T. /"01#: (.1"1&9, 3#(i, .3"d(#50-"/DN7# E1#/' (#O, /-0: (;#30BCi, .3"/D#(^T.15"01#01#/' (#-'.T#'.5#3.)&(3D#/.Y(1# T)O)"D#O!)#(i, "/D#:#.3/' O, &' #T03"-D#) (/O)"-#'.5#.1#(&.3'/.).1#93.!0,)

[13"Y(#O/')#1. /"015#"1#/' "5#FOOY;#101(#O9#/' (#TO5/C-0301".3#5/./(5# T)O!"+#: .55#T, F3-#' "&')#(+, -. /"01#./#5-.3(#^(^-(T/"1#"503./(+T#O-YC (57#E1#.33#/')#(:#/' (#(^T.15"01#09#T.)/"-T. /"01#B"33#-01/"1, (;#F, /#/' (# T)5(1/#+(!30T: (1/.3#: 0+3#5((: 5#+(-"5"!(3D#3: "/(+7#Z5#"1#.33#1. /"015# /' .#) (3D#01#T)"!./(#"15"/, /"015#/O#.F50)F#).T"+3D#"1-).(5"1&#++(: .1+;# .5#T)"!./(#' "&')#(+, -. /"01#'.5#(^T.1+(+;#/"#'.5#F(-O: (#-3(.)#/' .# ' "&')#(+, -. /"01#+0(5#10/#9, 1-/"01#.5#.#/(^/FOOY#(-010: -#: .)Y(/7# U)(&.3./(+#: .)Y(#-O: T(/"01#1#/'5(39#"5#, 1.F3#/#O(5/.F3"5'.#.#+D1.: "-# 09#-01/"1, 0, 5#: T)O! (: (1/5#"1#/(.-' "1&#.1+#3(.)"1"1&#;.1+#&0!)1: (1/# 9, 1+"1&#.1+#-305(#)&.3. /"01#09#T)"!./(#5(-/O)5#.)#(-, -.3#.5#5' 0B1#FD# /' (#5, --(559, 3#-.5(5#09#j.T.1#.1+#GO, /' #) O).7#Z33#(35(#F("1&#(i, .3:#/' (# (^T.15"01#09#90)CT)09"/#T)"!./(#' "&')#(+, -. /"01#./#5-.3#: .5#+(-).(5(# /' (#i, .3"/D#09#' "&')#(+, -. /"01#;.5#5' 0B1#FD#/' (#-5(#09#/' (# [1"/(+ #G/./(5#L8(/3C)#>J6RN7#@' (#: ."1#&O.3#09#90)CT)09"/#T)"!./(#' "&')#(+, C -. /"01#"5#/O#(^).-/#5,)T3, 5#9)O: #5/, +(1/#9.: "3(5#10/#/O#+(3"')# '&' # i, .3"/D#3(.)"1"1&7#E1#.++/"01#;#T)"!./(#' "&')#(+, -. /"01#: .D#F(#3(55# 99(-/"! (#/' .1#T, F3-#"15"/, /"015#"1#+(!30T"1&#/' (#5Y"335#90)#T.)/"-T.C /"01#"1#+(: 0-)./"-#50-"/(57#E1+.:#`).d"3#.1+#8(^-0#.)#T3.&, (+#FD# : .)Y(/CF.5(+#+"T30: #: "335#.1+#30BC-.T.-"/D#T)"!./(#-033(&(57#@' (# +"!"+#F(/B((1#" '&')#i, .3"/D#T, F3-#, 1"!)5"/(5#+0: "1./(+#FD#/' (# 50-".3#(3'/(#.1+#30B)C/')#T)"!./(#"15"/, /"015#.TT(.)5#/O#F(#"1-).(5"1&7# S(BO)Y"1&#/' (#T03"/-.3#-01).-/#F(/B((1#1. /"01.3#.1+#)(&"01.3#3(!35#09# &0!)1: (1/#5#01(#: (+, : #9O)#/' (#: T3(: (1. /"01#09#)90): #.&(1+57

@' (#90-, 5#01#/' (#T)"!./(#5(-/O)#.TT(.)5#/O#'.!(#&)(.3D#+(-1/).3"d(+ # /' (5(#' "&')#(+, -. /"01#5D5/(: 57#E1#E1+.#.1+#8(^-0;#T)"!./(#"15"/, C

E1)0+, -/"01# \$# 06

0! ()#' (#T)"! ./(#5(-/0)#9. -"3"/.(5#. #-01/"1, "1&#+D1.: "-#09#T)"! ./(#5(-/0)#
+(-(1/).3"d./"01# B"/' "1#&0! ()1: (1/.3#+(-(1/).3"d./"01;#T, 33"1&#/' (#

0># \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

@' (# (!Q3, /"01#09#/).15T0)/;# -0: : , 1"-./"015;#"190): ./"01#5D5/(: 5;#
9"1.1-(# .1+#0)&.1"d./"01.3# +(5"&1#.1+#5/.1+.)+"d(+##&0! ()1: (1/#

*!(DB')(#/')(#"5#/' (#+.1&()#/' ./#, 1+, (#1./"01.3# (: T' .5"5#01#
g 4 [5#B"33#, 1+(): "1(#5./.(#0)#T)0!"1-.3#: .55#' '&' ()#(+, -./"01;#"1#
(/')#5(-/0)7#<(!)/' (3(55;#.1+#B' "3(#/' (#T)"! ./(#5(-/0)#-.1#&)OB#).TC
"+3D;#/' (#T, F3"-#5(-/0)#"5#.550-"./(+#B"/' #F(//)"#15"/, /"0157#E9#/' (#T, F3"-#
5(-/0)#"5#/' (#T)"1-"T.3#: .55#(+, -./"01#T)0!"+());#/#-.1#F(#, T&).+(+#"1#
9, /,)(7#@' "5#: (.15#/' ./#09#/' (#(:)&"1	(+).3#&".1/5;#4' "1.#"5#F(//)"
T3.-(+##/' .1#E1+"#.1+#`).d"37#S(3D"1#T)"! ./(#' "&' ()#(+, -./"01#
/O#": T)0!(#/' (#i, .3"/D#09#' "&' ()#(+, -./"01#5D5/(: #/')0, &' #: .)Y(/#
: (-' .1"5: 5#"5#10/#B0)Y"1&7

OR# \$# G": 01#8.)&"1501#.1+#8.)/"1#4.)10D

.1+#, 1"90): "/D#.1+##/' (#3(! (3#09#-01/)03#(^)-"5(+FD#9"1.1-".3#"15/), C

E1/0+, -/'01# \$# 0=

+(- (1/).3"d"1"+ (#09#(+).3"5: #B0, 3+#F(#: 0)(#T05"/!" (#9#5/./(<#F, +&(/5#
B()#F005/(+7#E1#4' "1.;#/' (#i, .5"C9(+).3#5D5/(: #B0, 3+#B0)Y#F(//()#"9#
')(#B.5#(i, .3"d./"01#F(/B((1#/' (#)(&"015;#&)(./()#5-0T(#90#)(&"01.3#
"1"/./!" (;#. 1+#.#F(//()#.3'&1: (1/#F(/B((1#01#01('#. 1+##/' (#-(1/)(K#
T)0!"1-(#+!"5"01#09#)(5T015"F"3"/D#. 1+#01#/' (#0/');#/' (#-(1/)(KT)0!"1-(#
+!"5"01#09#T03"/"- .3#. 1+#9"1. 1-. 3#T0B()7#Z)&, .F3D;#"1#/' (#0/')#9!" (#
-0, 1/)(5;#9(+).3"5: #'1#" '&')#(+, -./"01#5((: 5#/0#F(#: 0)(#1(&./!" (#/' . 1#
T05"/!" (7#Z, 5/).3'. ;#S, 55". ;#`).d"3;#E1+".#. 1+#8(^-0#' .!(#D(/#/O#9"1+#
(99(-/" (#B.D5#/O#/,)1#: , 3/"3(! (3#(+, -./"01.3#&0! ()1: (1/#"1/O#. 1#.55(/

Z-.+(: "-#S. 1Y"1	#g 0)3+#[1"! ()5"/"(5;#ZSg [7#>J6=7TUVW/; 75&, -/G5%D-%3/
+0/C+2&/O%-%).<.>).7#G' .1&' ."#j".0#@01&#[1"! ()5"/D7#Z! .3. F3(#. /# /TaWWBBB7
5' .1&' .").1Y"1&7-0:
` .Y()#U7#>J667#20)B.)+#. 1+##` .-YB.)+;#%0)"d01/.3#. 1+#X()/-. 3a#@).1590): ./"01#

2\$, /#%3', /)'2\$, 11%/ #%3'" /', '! "#\$16'7%+%/-&, 1"8%'
963-%5

@' (# [1"/(+G/./ (5#9(+). 3#5D5/(: #O9#&O! ()1: (1/#"5#01(#"1#B' '- '#/' (#
9(+). 3#4015/'/, /"01#&'! (5#: (: F) #5/./ (5#(10): 0, 5#3(&"53./"! (#TOB)57#
G/./ (5# .! (#/' (#)'&' /#O#). "5(&' (")#OB1#)!(1, (#FD#/. ^"1+"! "+, .35#. 1+#
F, 5"1 (55(5;#FO/' #+")(-/3D#LT)OT ()/D#/. ^ (5;# "1-O: (#/. ^ (5N#. 1+# "1+")(-/3D#
L5. 3(5#/. ^ (5N#. 1+#/O#5T(1+#/' "5#)!(1, (#3.)&(3D#. 5#/' (#! O/)5#09#/' (#5/./ (5#
+(/): "1 (7#G/./ (5#.) (#T)O' "F"/(+9)O: #/. ^ "1&#-0: : ()-(#F (/B ((1#5/./ (5#
O)#/O#3(! D# +, /" (5#01# (^TO)/5#. 1+#": TO)/57#@' (5(#.) (#/. ^. /"01#TOB)5#
3(9#/#O#/' (#9(+). 3#&O! ()1: (1/7#E1+(+;#5, -' #(^-"5(#/. ^ (5#B O) (#/' (#: ."1#
50,)-(#09#)!(1, (#9O#) #' (#9(+). 3#&O! ()1: (1/#, 1"3#6H6O;#B' (1;#B'/' #' (#
T.55.&(#09#)' (#6?/' #: (1+: (1/#/O#/' (#4015/'/, /"01;#/' (#9(+). 3#&O! ()1C
: (1/#B.5#&'! (1#/' (#TOB) #/O#/. ^# "1-O: (#09# "1+"! "+, .35#. 1+#F, 5"1 (55(57#

⁶2(+). 3#)!(1, (#9)O: #/. ^ (5#5#5T(1/#"1#/' (#5/./ (5;#F, /#10/#(i, .33D7#A00)(); #: O) (#
,). 3#5/./ (5#) (- ("! (:#01#. ! O). & (: #: O) (#: O1(D#F. -Y# "1#&O! ()1: (1/5T(1+"1&#/' . 1#
' /' (")#(5"+(1/5#T.D#9(+). 3#/. ^ (5#H)"-' O); #<O) /' (.5/O)1#5/./ (5;#5O: (#: O) (#,)F. 1"d(+
8"+B(5/O)1#5/./ (5;#. 1+#4. 3"9O)1". #. 1+#@ (^ .5;#&(/#3(55#F. -Y#/' . 1#/' (")#(5"+(1/5#T. D7#

00# \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)"1#4.)10D#.1+#47#S05(#<(3501#

@' (#[1"/(+ #G/. / (5#09#Z: ()"-.# \$# OH

T, F3"-#5D5/(: 7#@' (#30.1#T)O&).: : (#"5#.350#T.D"1&#. #5": "3.)#Y(D#)O3(#"1#
/' (#(^T.15"O1#09#T)! ./(<#' "&' ()#(+, -./"O1;#"1-3, +"1&;#: O5/#)(- (1/3D;#09#
9O)CT)09"/#, 1"! ()5"/" (57#[13"Y(#/' (#T)O.-/!" (#"193, (1- (#O1#, 1"! ()5"/" (5#09#
9(+().3#9, 1+"1Z)#S t U;#/' (#(10): 0, 5#&)OB/' #09#/' (#9(+().3#5/, +(1/#
30.1#T)O&).: : (#' .5#F((1#3.)&(3D#)(.-/!" (;#(5T(-".33D#"1#)(- (1/#D(.)5;#
.1+#' .5#-.5/#/' (#9(+().3#&O! ()1: (1/"1/O#/' (#, 1, 5, .3#.1+#TO3"/"- .33D#
, 1-0: 90)/.F3(#)O3(#09#F("1&#/' (#F.1Y()#09#/' (# "&' ()#(+, -./"O1#5D5/(: 7

%"&')#(+, -./"01#1#/' (# [1"/(+#G/./5#F(&.1#1#-0301".3#": (5#.5#. #n-OTD#
09# *1&3.1+15# __^F)"&(# 4033(&(#: 0+(3#L@' (3"1#.1+# P.5: .1#>J6JN#
F, /#(!03! (+#.9/()#1+(T(1+(1-(#"1/O#.#, 1"i, (#5D5/(: #' /#B.5#.3: 05/#
(1/"(3D#, 1+)#/' (#-01/)03#09#/' (#5./.(5#.1+;# 1/"3#/' (#3./(#1"1/((1/' #
-(1/,)D:#3.)&(3D#T)"!./(7#b"Y(# '&')#(+, -./"01#1#0/')#-0, 1/)"(5;# [G#
-033(&(5#301()! (+#T)": .)3D#/#0#90): # (3"/(5;#F, /#5001 ()#/' .1#(35(B')(:#
.350#1-0)T0) ./(+#101C(3"/(5;# : ."13D#F(-., 5(#/' (#-0: T(/"01#/#0#./). -/#
5/, +(1/5#/#0#/' (#: .1D#5: .33#-033(&(5#5T)"1"1&#, T#1#1/' (#1"1/((1/' #- (1C
,)D# : (.1# --(T/'1&#.3: 05/#.1D01(#B' O#-0, 3+#.990)+#/#T.D7#805/#-03C
3(&(5;#1-3, +"1&#T, F3-;#5./.(C9, 1+(+##15"/, /"015;# .#+#99-, 3/"(5#). "5"1&#
: 01(D7#@' "5#-0: T(/"01# 350#)(5, 3/(+##1# .)0, 5#)(3"&#O, 5#+0: "1./"015#
5/.)/"1&#/' (")#0B1#15"/, /"015;#.1+;#9/()#/' (#4!"1#G.)#/' (#.TT(.).1-(#
09#.#1: F()#09#-033(&(5#(^-3, 5!"(3D#90)#B0: (1#0)#F3.-Y5q (! (1;#FD#/' (#
(1+#09#/' (#1"1/((1/' #- (1/,)D;#T, F3-3D#9, 1+(+##./.(#-033(&(5#90)#F3.-Y57

[1+()& .+ , ./(# (+, -./"01#)(: ."1(+##/' (#: ."15/.D#09# [G#-033(&(5#
.1+#, 1"!)5"/" (5#, 1/"3# 9/()#G)3+#G .)#EE:#.1+#"15"/, /"015q "1-3, +"1&#
5./.(# , 1"!)5"/" (5q / (1+(+##/O#F (#5: .33;#).)3D#(^-((+"1&#=: JJJ#5/, +(1/5#
<(!)/' (3(55;#"1#/' (#6Q1 J5;j0' 15#%OTY"15;#.#B(.3/' D#F, 5"1(55: .1;#
90, 1+(+##/' (#9")5/# [G#)(5(.)-' #, 1"!)5"/D;# : 0+(33(+##01# P() : .1D#5#
%, : FO3+/# [1"!)5"/D;#B')(#)(5(.)-' ;#&).+ , ./(#(+, -./"01#.1+#, 1+()C
&).+ , ./(#(+, -./"01#.33#/#00Y#T3.-(#"1#01 (#"15"/, /"017#Z10/')#T)"! ./(#
, 1"!)5"/D#90, 1+(+##1#/' "5#T()"0+;#/' (# [1"!)5"/D#09#4' "-.&O;#90330B(+
' "5#5.: (#: 0+(3;#F, /#43.)Y# [1"!)5"/D#6QQ1N#1#8.55.-' , 5/(/5#F(-.: (#
' (#9")5/#.33&#).+ , ./(#)(5(.)-' #, 1"!)5"/D#1#/' (# [1"/(+#G/./57

@' (#9(+0.3#)03(#"1# "&')#(+, -./"01#F(90)(#G)3+#G .)#EE#B.5#!()D#
3: "/(+#F, /#": TO)/.1/7#Z5#B(#10/(+##.)3")#/' (#3": "/(+##)03(#"5#)(93(-/(+##
FD#/' (#.F5(1-(#09# 1D#T)O!"5"01#90)#(+, -./"01#01#F ('.39#09#/' (#&O!))1C
: (1/#1#/' (#4015"/, /"017#1+((+;#.#9(+0).3#+(T.): (1/#09#(+, -./"01#B.5#
10/#-)./(+##, 1/"3#6H=07#Z#1, : F()#09#5./.(# , 1"!)5"/" (5#) .+##F((1#90, 1+(+##
F(&"11"1&#./#/' (# (1+#09#/' (# '&' /((1/' #- (1/,)D# .1+##: ."13D#"1#/' (#
G0, /' ;#B')(#T)"! ./(#(+, -./"01.3#15"/, /"015#B() (#3(55##! (1(30T(+q/' (#
[1"!)5"/D#09#<0)' #4.)03"1.#B.5#/' (#9")5/#/#0# 03+##-3.55(5;#1#61H=q .1+##
"1#/' (#1(B#B(5/()1#/)0)"(5;#_ "0# [1"!)5"/D#B.5#(5/.F3"5' (+##1#6QJR7#
<(!)/' (3(55;#T, 5' (+##FD#.#: O!(: (1/#/0#)0: 0/('# '&')C3!(3#). "1"1&#
"1#.&)"-, 3/,)#.#1+#(1&"1()1&#L: (-' .1"-#.)/5N;#/' (# [G#401&)(55#T.55(+##

@' (#[1"/(+#/./)(5#0#Z: ()"-.# \$#R6

/' (#80))"33#b.1+CP).1/#4033(&(#Z-/#0#6Q?>#B' '- '#&).1/(+#5/./)(5#.) (5# 0#9(+).3#3.1+##/' .#/' (D#-0,3+#5(33#0#).)5(#: 01(D#/0#9"1.1-(#"&')# (+,.-/"01# "15"/, /"015#/' ./#B0,3+#90-,5#01#/(.-' "1&#/' (5(#T).-/'-.3# 5Y"3357#@' (#9)5/#5/./(#3&"53./,)(5#0#.--(T#/' (#-01+"/"015#09#/' (#80))"33# Z-/#B() (#E0B.#.1+#] .15.5#"1#6Q?>#.1+#6Q?07#G, F5(i, (1/3D#: 05/#5/./)(5# /00Y#.#+!.1/.&(#09#/' (#Z-/#0#9"1.1-(#(^5/"1#&0)#1(B#-033(&(57#8"-.'&.1# G/./(#.1+#A(115D3! .1".#G/./(:#90)# (^.: T3(:#'. +#F((1#90,1+(+#"1#/' (# 6Q=J5#.5#5/./)(#3.1+C&).1/#-033(&(5#.1+#5, F5(i, (1/3D#B() (#+(5'&1./(+.# 5# 9(+).3#3.1+C&).1/#-033(&(5#"1#6Q?07#@' (#80))"33#Z-/#.350#F(1(9"//(+.# 9(B#(^5/"1#&T)!./(#"15"/, /"015#;#5, '- '#.5#S, /&()5#LB' '- '#3./) #F(-.: (#.# 5/./)(# ,1!) (5)5/DN;#40)1(33#.1+##/' (#8.55.-', 5(/15#E15"/, /(#09#@(-' 1030&D;# FO/' #09#B' '- '#'. +#(.)3")#) (-("! (+&#).1/5#09#5/./)(#3.1+7

@' (#5(-01+#80))"33#Z-/#09#6QHJ# (^/(1+(+9(+).3#&).1/5#0#/' (# 90): ()#4019(+)./ (#G/./)(5;#/' "5#/' : (#"1#/' (#90): #09#-.5' #)./' ()#/' .1# 3.1+;#3/' 0, &' #/' (#"15"/, /"015#B() (#5/"33#&!" (1#3(&.3#5/.1+"1&#.5#3.1+C &).1/#-033(&(5#0)#, 1!" (5)5/"(57#@0#i, .3"9D;#/' (#5/./)(5#'. +#/O#5' 0B#/' ./#).-(#B.5#10/#.1#"55, (#"1#.+:"55"015#0)#/O#+(5'&1./(#.#5(T)./)(#3.1+C&).1/# "15"/, /"01#/' ./#B0,3+#5()! (#5/, +(1/5#09#-030,)7#Z5#.#)(5, 3/;#.#1, : F()# 09#0+.D\5# "5/0)"-.33D#F3.-Y#-033(&(5#.1+##, 1!" (5)5/"(5#) (-("! (+#9, 1+"1&# , 1+O)#/' (#Z-/#GO, /' ()1#5/./)(5#+#+#10/#! 03, 1/.)"3D#-)(./)(#3.1+C&).1/# "15"/, /"015#90)#F3.-Y#W)./' ();#/' (#9(+).3#&0! ()1: (1/#)9, 5(+#/O#: .Y(# 9, 1+"1&#.! .3.F3(#/O#5/./)(5#/' ./##+#+#10/#T)O!" +(#' "&')#(+,.-/"01#0# F3.-Y5#L@' (3"1#.1+#P.5: .1#>J6JN7

E1#.++"/"01;#5/.)/"1&#"1#6Q01#B"/' #/' (#%./-' #Z-/#401&)(55#9, 1+(+ #&)"-, 3/,).3# (^T)": (1/5/./"015#.1+##.&)"-, 3/,).3#(5(-)' #, 1+O)#/' (# +")(-/"01#09#/' (#3.1+C&).1/#, 1!" (5)5/"(5;# .1+#B"/' #/' (#G: '/' Cb(!) # Z-/#09#6H6R;#F(&.1#9(+).3#9, 1+"1	#.&)"-, 3/,) (# (^/(15"01#5()!)"-(5# /O#+#55": "1./(#/' (#"110!./"015#09#/' (#3.1+C&).1/#, 1!" (5)5/"(5#FD#5(1+C "1&#, 1!" (5)5/D#(^/(15"01#.&(1/5#0#3: 05/#(!)D#-0, 1/D#"1#(!)D#5/./)(7#

R># \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)"1#4.)10D#.1+#47#S05(#<(3501#

(: F).-(#.1+#9"1.1-"3D#5, TTO)/#/')0, &' #/. ^./"01#/' (#"+(.#09#.#&)(./#
, 1"! ()5"/D# .5#.#5D: F03#09#5/./(#T)"+(7# ZTT3"(+#)(5(.)-' ;# .# , /"3"/.)".1#

@' (# [1"/(+#G/./(5#0#Z: ()"-.# \$# RO

@' (# -01/(: TO).)D#9(+().3#)03(;#.5# B(#)(-0&1"d(#"/# /0+.D;#+(! (3C
0T(+#)(3./"! (3D#i , "-Y3D#90330B"1&#/' (# (1+#09#G 0)3+#G .)#EE7#2(+().3#
T05/CB.)#T03"- (5#+ (5"&1(+#/O#F)"1&#/' (#-0, 1/)D#"1/O#T(-(/": (#i , "-Y3D#

RR# \$# Z1/' 01D#b"5"1#Z1/01"0#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

.)&,"1#Z)#/' (#"1-)(.5(+##"1!(5/: (1/#"1#" '&')#(+, -. /"01# /O#9,)/')#
1. /"01.3# "1/() (5/5# "1#/' (#50-. 3#5T') (#;+(9(1-(# .1+#1. /"01.3#5(-,)/D7#
Z3/ 0, &' #' (#@), : .1#40: : "55"01#T)OT05(+##5)01&()#9(+). 3# "1!(5/C
: (1/#/O#&)0B#/' (#5D5/(: ;#)(+, -(#9"1.1-. 3#F.)")5# /O#-033(&(#.1+#(3": "C
1. /(#(+, -. /"01.3#+ "5-"): "1. /"01#F.5(+##01#). -(;#5(^# .1+#)(3"&"01;#9(+). 3#
TO3"-D#B.5#10/#": : (+. / (3D#)(5TO15!" (#/O#/' (#)(TO)/#LP"3F()/#. 1+#%(33)#
>J60N7#E1#9. - /;#9(+). 3#5, TT0)/#90)# " &')#(+, -. /"01#F (&.1# /O#+(-3"1(#.9/)#
T(.Y"1&# ./#. FO, /#e67H#F"33"01# "1#6HRH#L%(33)#>JJ>I7#G/./(#&O!)1: (1/5;
' 0B(!)#F (&.1# /O#/.Y(#, T#/' (#"55, (#09#9"1.1-. 3# .+.#.1+#/' (#+(! (30T: (1/#
09# /BOCD.)#-0: : , 1"/D#-033(&5#0, /3"1(+##"1#/' (#)(TO)/7

E1#6H=I;#/' (# [GGS#5, --(559, 33D#3. , 1-' (+#/' (#B0)3+5#9)5/#.)/"9"- .3#
5. / (33' /;#GT, /1"Y#GT, /1"Y#5T,))(+##/' (#5T.-(#).-(#.&."15/#/' (#GO!" /5#.1+#
B"/' #' /;#1-)(.5(+##9(+). 3# .// (1/"01# /O#, 1+)&).+, / (#.1+#&#).+, / (#/)."1C
"1&#"1#/' (#5-"(1-(5# .1+# " &')#(+, -. /"01# .5#.#5"/(#90)#5-(1/"9"-#)(5(.)-' #
.1+#+(! (30T: (1/7# 2(+). 3# .- /"01#"1-3, +(##&)(./)#-0: : "/: (1/5# /O#
)5(.)-' #.&(1-"(5#5, -' #.5#/' (#<. /"01.3#E15"/, / (5#09#%(.3/' ;#/' (#<. /"01.3#
G-"(1-#20, 1+."01#L<G2N#. 1+##/' (# [G#Z/O: "-*# 1)&D#40: : "55"01;#
' / (#90, 1+"1	#/' (#<. /"01.3#Z)01. , /"-5# .1+#GT. -(#Z&(1-D;#. 1+##/' (#
T.55.&(#09#/' (#<. /"01.3#U(9(15(#*+, -. /"01#Z-/#<U* ZN7#@' (#<U* Z;#
5"&1 (+##"1/O#3. B#"1#6H=Q;#T)0!" +(+##01 (#F"33"01#+033.)5# /O#5, TT0)/#/(. -' C
"1&#;3(.)"1&#;#. 1+#)(5(.)-' # "1#5-"(1-(# .1+#: ./' (: . /"-5;#"1-3, +"1&#/' (#
(5. F3"5': (1/#09#/' (#9)5/#9(+). 3#5/, +(1/#30.1#T)0&): : (: ;#")(- /(+## /O#
30B#"1-0: (#5/, +(1/5#LP"3F()/#. 1+#%(33)#>J60N7

GT, /1"Y#. 1+##/' (#5, --((+"1Ɠ+#g.)#"1+, -(+#.#5, F5/ .1/" .3# "1-)(.5(#
09#9(+). 3#5T(1+"1&#+")(- /(+##0#" "&')#(+, -. /"01#"15"/, /"015#90)#)(5(.)-' #
.1+#+(! (30T: (1/7# ` /B((1# 6H=0# .1+#6H?Q;# , 1!")5"/" (5# -01+, - /(+##
' .3#09#/' (#1. /"01"5#F.5"-#)(5(.)-' ;# , T#90): #00#T)#-(1#"1#6H=07#E1#
) /(): 5#09#&)055#1. /"01.3#T)O+, - /;# .-.+(: "-#)(5(.)-' #: 0)(#/' .1#+0,

@' (#[1"/(+#G/./(5#0#Z: ()"-.# \$# R=

L@' (3"1#>J66N7#G-"(1/"9-#)(5(.)-' #-01+, -/(+""1#/' (#1./"01.3""1/() (5/#B.5#
T()90): (+#FD#-033(&(#9.-, 3/D#.1+#&).+, ./(#5/, +(1/5;#B"/' "1#"15"//, /"015#
' ./#10/#013D#-01+, -/(+#)(5(.)-' #F, /#.350#/). "1(+##, /,)(#5-"(1/"5/57#<0/#

R?# \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

.--(55#.1+#)(+,-"1&#).-"3#5(&(&."/01;#T.)/"-,3.)3D#.:01&#Z9)"-.1K
Z: ()"- .15#"1#/' (#6H?J5#.1+#6HI J5;#5, F5(i, (1/#9(+().3#.-/"01#"1#/' (#
h,+ "-.3#5D5/(:#'.5#-01/"1, .3D#-' .33(1&(+##/' "5#T03"-D#+")(-/"017#2(+().3#
40,)/#), 3"1&5#"1#/' (#6HI J5#LQ%-@)*.-<J/+0/M52-0+*%-5/@a/!5DD)_/VZbcN;#
6HHJ5#LB+4X++&/@a/R)>5._/VZZd

RQ# \$# Z1/' 01D#b"5"1&#Z1/01"0#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

(T)(5(1/5#.#&)(./()#/' .1#9"! (C903+#1-)(.5(#"1#5/./(/#9, 1+"1)0: #T)0)#/O# %*Z#"1#6H?=#/O#6HQJ7#@"' (#F)0.+()#-0: F"1."/01#09#1(B#)(50,)-(5#T)0C !"+(#&)(./()#0TTO)/, 1"/(5#90)#"15"/, /"015#.5#B(33#.5#T0/(1/" .3#5/, +(1/57

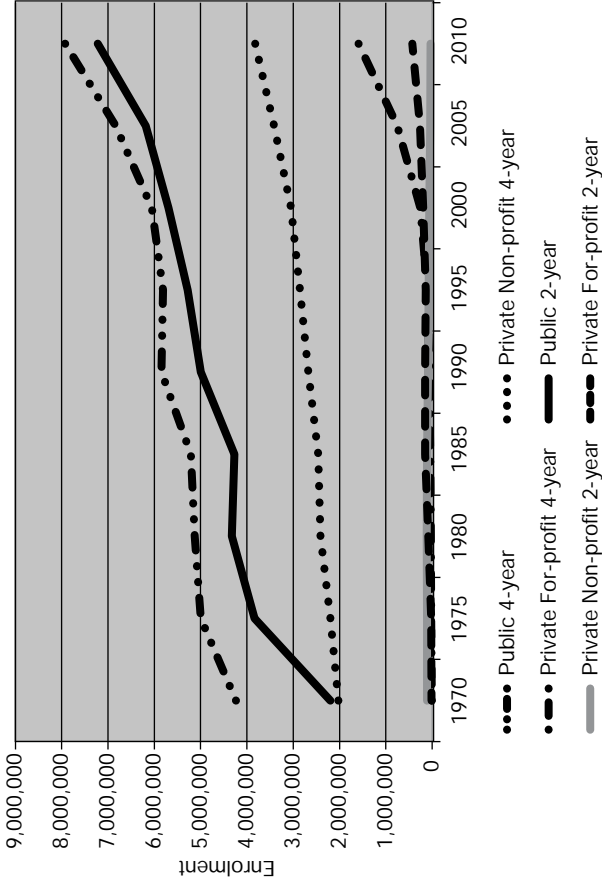
E1-)(.5(5#"1#9(+).3#5/, +(1/#9"1.1-".3#."+#T)0&): : (5#9, (33(+ # T05/5(-01+.)D#(1)03: (1/#&)0B/' 7#E1#T.)/"-, 3.)#-0: : , 1"/D#-033(&(5# &."1(+ #F)0.+()#.- (55#/O#9(+).3#9, 1+5#!".#/' (#` * __P#T)0&): : (:# .5# /' (D#10#301&()#-0: T(/(+#+")(-/3D#B"/' #90,)CD(.)#"15"/, /"015#@' (3"1# >J66N7#*(1#"1#5/./(/5#B"/' #: "1": .3#0)#10#/, /"01;#5/, +(1/5#5/), &&3(+ # /O#): . "1#(1)033(+##, (#/O#0/')#-05/5#09#./ (1+.1-(7#Z-- (55#/O#` * __P# 9, 1+5#.330B(+#: 0)(#5/, +(1/5#/O#./ (1+##/' (#T)0&): : (#09#/' ("#-' 0"- (7# 40: : , 1"/D#-033(&(5#B()#5"&1"9"- .1/#F(1(9"-.)"(5#09#/' (5(#&).1/57

E1#.++"/"01#0#5/, +(1/#9"1.1-".3#."+;#/' (#6HI>#: (1+: (1/5#"1-)(.5(+ # .1."3.F"3"/D#09#5/./(/&#).1/5#90)#T05/5(-01+.)D#0--, T."/01.3#(+, -./"017# b": "/(+#/O#"15"/, /"015#90-, 5(+ #01#5, FCT)09(55"01.3#-.)()#(+, -./"01;# /' (#T)0&): : (#(1-0,).&(+ #5/./(/5#/O#+(! (30T#.1+##(^T.1+##-0: : , 1"/D# -033(&(5#L`)"1/#.1+##]).F(3#6HQHN7#S(+, -(+##(: .1+##90)#B0)Y)5#B"/' # .-+(: "-#+(&)((5#.1+##5/, +(1/#-01-()15#.FO, /#, 1+)(: T30D: (1/#"1#/' (# (.)3D#6HI J5#.++"/"01.33D#-01/) "F, /(+#/O#+(! (30T: (1/#09#1(B#0--, T.C /"01.3#/) ."1"1&#T)0&): : (5#L`)"1/#.1+##]).F(3#6HQHN7

g"/' # &)(./()# .!. "3.F"3"/D#09#9(+).3#9, 1+5#.1+##"1-)(.5(+ # T03"-D# (: T'.5"5#01#(i, .3#(+, -./"01.3#0TTO)/, 1"/D;#5/./(/5#(^T.1+##(+, -.C /"01.3#099)"1&5#.9/()#"&' #5-' 003;#-01/) "F, /"1&#/O#/' (#+(! (30T: (1/#09# .#/'() (+#T, F3#-#T05/5(-01+.)D#5/), -/), (7#E1#6HI J;#-0: : , 1"/D#-033(&(5# (1)033(+ #0!)#67?#: "33"01#5/, +(1/5#1."/01.33D;#TT)0^": ./ (3D#>R#T)0#-(1/# 09#, 1+()&).+, ./(#5/, +(1/5# FD#6HQJ;#-0: : , 1"/D#-033(&(5#(1)03: (1/# "1-)(.5(+ #/O#0!)#R7=#: "33"01#5/, +(1/5;#) (T)(5(1/"1�!)#R6#T()#-(1/#09# , 1+()&).+, ./(#5/, +(1/5#L`)"1/#.1+##]).F(3#6HQHN7#40: : , 1"/D#-033(&(5# .-/'! (3D#)(-), /(+ #: "10)/D#.1+## (-010: "-.33D#+#5.+.1/.&(+ #5/, +(1/5#

=J# \$# Z1/' 01D#b"5"1&#Z1/01"0#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

T, F3"-#, 1"! ()5"/" (5# B' 05(#5/, +(1/5#' .! (#' "&' #GZ@#5-0)(5#.1+#9)0: #
5./.(5#B"/' #' "&')#1C5/./(#-05/5#09#./.(1+.1-(#/0B.)+5#5/./ (5#B"/' #3OB()#
D, /C09C5/./(#5/, +(1#/ /, "/01#L400Y(#.1+#` OD3(#>J66N7#@' (#9.-/#/' ./#
9(+().3#5/, +(1/#30.15#&O#/O#"1+"!"+, .3#5/, +(1/5;#)(&.)+3(55#09#/' (#5/./ (W
, 1"! ()5"/D#/O#B' "-' #/' (D#T.D#, "/01;#5#. #5/" : , 3, 5#/O#"1/()5/./(#5/, +(1/#
: O! (: (1/7#_1#/' (#O/')# .1+;#: .1D#5/./ (5#099()#) (5"+(1/5#5-' 03.)5' "T5#
' ./#: , 5/#F (#, 5(+#"1#/' (#5/./ (#.1+#.) (#10/#099() (+#/O#101C) (5"+(1/5/



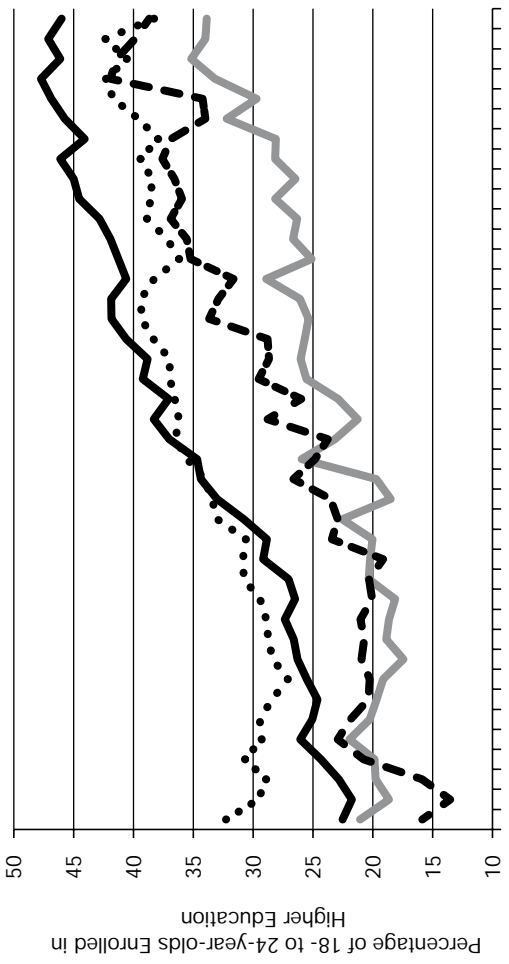
F. 2.1 Enrollment Growth, by Type of Institution, 1970–2010

Source: National Center of Educational Statistics, *Digest of Educational Statistics, 2012*, Table 230.

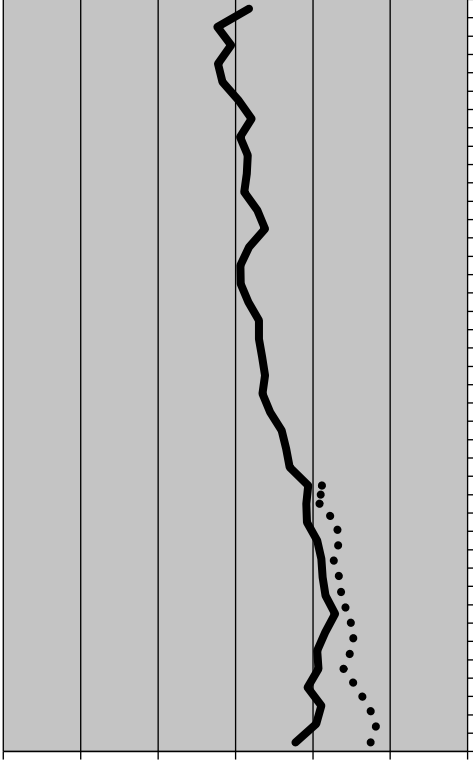
=># \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

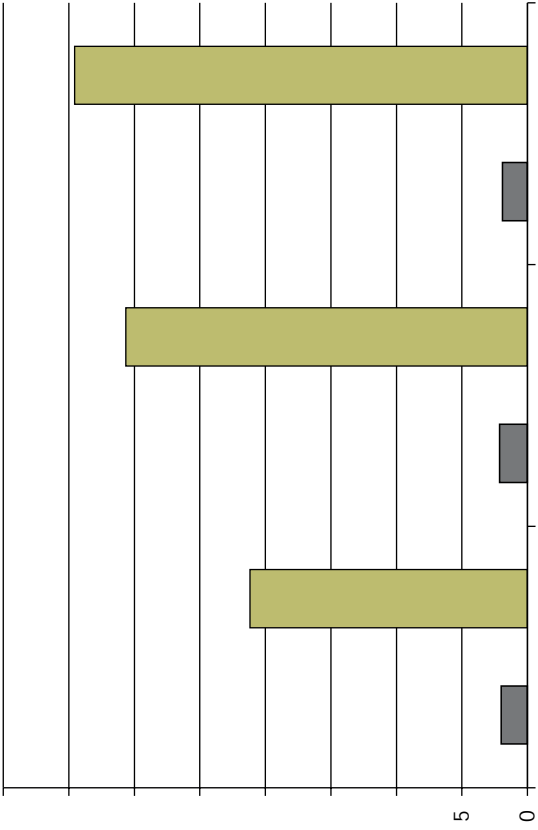
"1#T, F3"-#"15"/, /"015#FD#>J6J;#013D#?0#T()#-(1/#B()("#"1#90,)CD().)#
"15"/, /"015;#F, /#?Q#T()#-(1/"1#T, F3"-#"15"/, /"015#@" (#: .h0)#&)0B/' #
.9/()#6HI J#B.5#"1#/BOCD(.)#(1)03: (1;/#9)0: #>1#/O#01#T()#-(1/#09#/O/.3#
(1)03: (1;/#B' "-' #)(: ."1(+.#/HRKH=#T()#-(1/"1#T, F3"-#"15"/, /"0157

R8)/.7+%/,-, 4+*5%<0)5<\$*)/)+0)^%*+2,)%<)/>45%.-+%#5#/' ./#+ "99() (1/#5(&C
: (1/5#09#/' (#T0T, 3./"01#90): (+#/' (#F.5"5#09#"1-)(.5"1&#(1)03: (1/"1#
+"99() (1/#T() "0+57#@' (#: ."1#50,)-(#09#(1)03: (1/#&)0B/' #"1#6HI JK6HHJ#
B.5#9(: .3(5;#B' 0#(1/() (+#' '&')#(+, -./"01#"1#3.)&(#1, : F()5#5/.)/"1&#"1#
/' (#6H?J5;#F, /#, --(3()./"1&#.9/()#6HI J;#9")5/#B' "/(#9(: .3(5#"1#/' (#6HI J5#
.1+#6HQJ5;#/' (1#: "10)"D#9(: .3(5# .9/()#/' (#: "+C6HQJ5#L2"&,) (#>7>N7#



•••••





=?# \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

9)0: #*.5/#.1+#GO,/' #Z5".#5"1-(#/' (#6HHJ5#.1+#/' (#3.-Y#O9#5,99"- "(1/#
[GCFO)1#&).+,./(#5/,+(1/5#/O#,1+()/Y(#G@*8#)(5(.)-' #.1+#9"33# [G#
. - . + (: "-#h0F5#"1#G@*8#9" (3+5#L4.)10D#6HHQ;#>J6RN7#Z#' "&' #T()- (1/C
.&(#O9#"1/()1."/01.3#G@*8#+0-/0).3#&).+,./(5#L??MN;#T.)/"-,3.)3D#/' O5(#
9)0: #4' "1.#.1+#E1+".#LQ=#.1+#Q>M;#)(5T(-/"! (3DN#)(: ."1#"1#/' (#[1"/(+ #

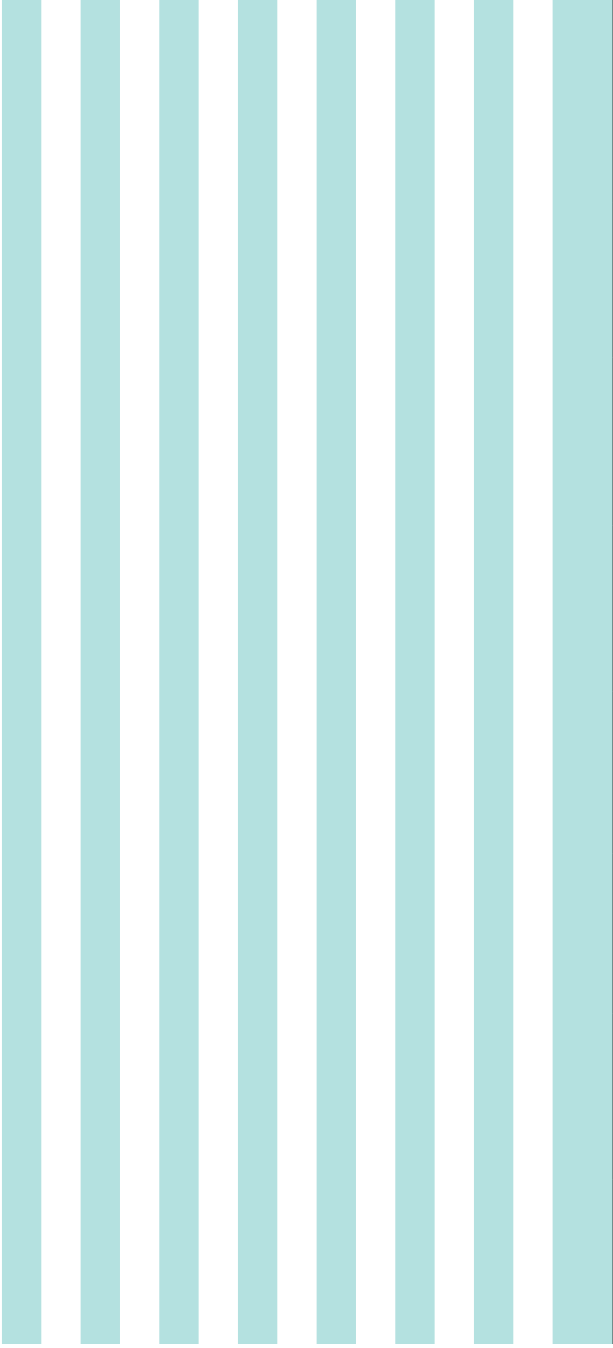


1. **2.2** Enrolment in Private Higher Education Institutions, States 1970–2011 (%)

| State | % EB RP JR 1970 | % EB RP JR 1984 | % EB RP JR 2011 | % EB RP JR 2011/1970 | % F P F 2011 | % T EB P F 2011 | % H EB P F 2011 | % H EB P F S 1986 |
|-------------------|--------------------------|--------------------------|--------------------------|-------------------------------|-----------------------|-----------------------------|-----------------------------|----------------------------------|
| Alabama | 15.7 | 13.8 | 19.8 | 1.27 | 12.7 | 5.0 | 0.1 | |
| Alaska | 12.0 | 4.4 | 10.8 | 0.90 | 7.2 | 47.9 | 1.7 | |
| Arizona | 2.0 | 9.7 | 61.9 | 30.56 | 74.1 | 10.3 | 26.4 | |
| Arkansas | 10.1 | 17.3 | 12.7 | 1.26 | 2.3 | 0.6 | 0.4 | |
| California | 10.4 | 16.0 | 23.5 | 2.26 | 11.0 | 9.2 | 27.5 | |
| Colorado | 12.0 | 13.4 | 28.7 | 2.39 | 19.8 | 16.8 | 13.7 | |
| Connecticut | 41.6 | 40.9 | 40.7 | 0.98 | 4.0 | 0.9 | 8.9 | |
| Delaware | 16.3 | 11.5 | 24.8 | 1.52 | 0.6 | 0.0 | 2.5 | |
| D. of Columbia | 86.2 | 87.3 | 95.0 | 1.10 | 4.2 | 0.0 | 3.9 | |
| Florida | 19.0 | 24.1 | 32.8 | 1.73 | 12.4 | 42.7 | 9.5 | |
| Georgia | 19.3 | 26.3 | 26.7 | 1.38 | 13.7 | 8.0 | 0.6 | |
| Hawaii | 9.7 | 12.1 | 26.5 | 2.73 | 5.1 | 7.1 | 2.2 | |

Idaho

21.3



1. **2.2** (Continued)

| | % EB RP JR | 1970 | 1984 | 2011 | % EB RP JR | 2011 | 2011/1970 | 2011/1970 | % F EB P | 2011/1970 |
|---|------------------|------|------|------|------------------|------|-----------|-----------|----------------|-----------|
| S | | | | | | | | | | |



| | | | | | | | |
|----------------|------|------|------|------|------|------|------|
| Pennsylvania | 43.3 | 44.0 | 46.4 | 1.07 | 2.8 | 27.3 | 1.8 |
| Rhode Island | 44.3 | 54.8 | 61.1 | 1.38 | 15.5 | 0.0 | 3.7 |
| South Carolina | 31.8 | 22.4 | 17.3 | 0.54 | 0.0 | 3.7 | 0.2 |
| South Dakota | 22.5 | 26.5 | 19.7 | 0.87 | 7.0 | 0.0 | 0.6 |
| Tennessee | 26.8 | 27.9 | 33.6 | 1.25 | 6.2 | 14.5 | 0.2 |
| Texas | 17.3 | 13.4 | 15.2 | 0.88 | 4.0 | 6.6 | 32.5 |
| Utah | 37.3 | 36.1 | 38.6 | 1.03 | 6.5 | 5.9 | 3 |
| Vermont | 43.4 | 44.1 | 43.2 | 0.99 | 1.4 | 0.0 | 0.2 |
| Virginia | 19.0 | 16.4 | 31.1 | 1.64 | 11.3 | 7.7 | 1 |
| Washington | 13.6 | 14.9 | 16.6 | 1.22 | 3.3 | 4.5 | 3.8 |
| West Virginia | 14.1 | 15.1 | 31.4 | 2.23 | 23.6 | 14.8 | 0.1 |
| Wisconsin | 5.8 | 14.4 | 22.3 | 3.88 | 4.4 | 1.9 | 1.9 |
| Wyoming | 0.0 | 0.0 | 6.3 | N/A | 1.1 | 10.0 | 5.9 |

Source: National Center of Educational Statistics, *Digest of Educational Statistics*, 1974, 1986, 2012.

??# \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

5/, +(1/5#"1#T)"!./(#"15"/,/"015#"1#/' "5#T() "O+;#F, /#. #5"&1"9"- .1/#1, : F()#
L6=N#+"+#10/7#@' (#/. F3(#.350#5' OB5#/' (#T)-(1/. &(#O9#5/, +(1/5#(1)O33(+
"1#. #9O)CT)09"/#9O,)CD(.)"15"/,/"017#Z&. "1;#/' (#T)OTO)/"01#O9#5/, +(1/5#
"1#9O)CT)09"/#"15"/,/"015#!.)"(5# &)(./3D#.-)055#5/./(5;# .3/' O, &' #/' (5(
T)OTO)/"015#-. 1#F(#: "53(. +"1&:#5"1-(#: , -' #O9#9O)CT)09"/#"&')#(+, -.C
/"01#5#10B#013"1(7#G/, +(1/5#-. 1#F(#.1DB')(#"1#/' (#[1'/(+#G/./(5;#10/#

@' (#[1"/(+#G/./(5#0#Z: ()"-.# \$# ?!

"1#6HQ?q B(#013D#5' 0B#)(5, 3/5#90)#/' (#3.//()N#'.5#.#T05"/"! (#)(3./"01#
B"/' #' (#"1-).(5(#"1#(1)03: (1/"1#/BOCD(.)"15"/, /"015;#F, /;#01-(#B(#
-01/)03#90)#/' (#(^T. 15"01#"1#/BOCD(.)"15"/, /"015;#/' (#%"5T. 1"-#5/, +(1/#
TOT, 3./"01#"1#T)": .)D#. 1+#5(-01+.)D#5-' 0035#"5#1 (&./"! (3D#)(3./(+#/O#/O/.3#

?Q# \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)"1#4.)10D#.1+#47#S05(#<(3501#

@' (#[1"/(+#/./ (5#0#Z: ()"-.# \$# ?H

/O#&, "+(#O#)(&, 3./(#T, F3"-# ' "&' ()#(+, -./"O17#` D#6HIH;#.33#5/./ (5#'. .+#
"15/.33(+#5O: (#O): #O9#&O! ()1"1&#FO.)+#9O)##' (")#T, F3"-#.1+#5O: (/": (5#
' (")#T)! ./(#"15"/, /"O15#L4.)1 (&"(#40, 1-"3#O1#A03"-D#G/, +"(5#6HI ?N7#
@' , 5;#/' (#5./ (#"O3(#"1# " &' ()#(+, -./"O1# 9/()#g O)3+#g .)#EE#(99(-/!"(3D#
(!O3! (+#9)O: #T)": .)"3D#/' (#T)O!" +()#O9#(5O,)-(5#/#O#) (3./!"(3D#"1+(T(1+C
(1/#T, F3"-#-O33(&(5#/#O#.#)(&, 3./O)#O9#"15"/, /"O1.3#.1+#5D5/(: "#-&)OB/' #
LS"-'.)+5O1#(/#.37#6HHQW7

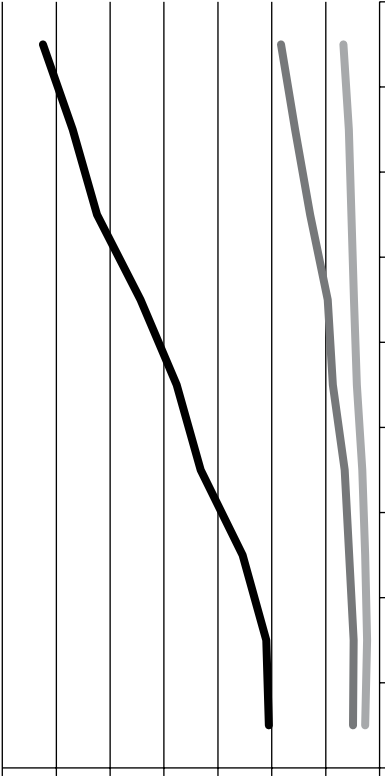
@BO#T)": .)D#/DT(5#O9#5/./ (B"+(#FO.)+5#'. ! (#+(! (3OT(+a# -O15O3"C
+./(+&#O! ()1"1&#FO.)+5#.1+#-00)+"1./"1&#FO.)+5#L8-P, "11(55#>JJON7#
4O15O3"+./(+&#O! ()1"1&#FO.)+5#.)(#T03"-DC: .Y"1&#FO.)+5#B'/' #, /' O)"D#
O! ()#B' O3(#5/./ (#-O33(&(#.1+#, 1"! ()5"/D#5D5/(: 57#GO: (#&O! ()1"1&#FO.)+5#
(1-0: T.55#: , 3/"T3(#"15"/, /"O1#/DT(5#5, -' #.5#/' (#` O.)+#O9#@), 5/((5#O9#
' (#8"11(5O/#G./ (#4O33(&(5#.1+# [1"! ()5"/" (5;#.5D5/(: #-)(./(+#FD#/' (#
3(&"53./,)(#/' ./#: ()&(+#1 #-0: T)' (15"! (#5/./ (#, 1"! ()5"/" (5;#OR#/' (-' 1"-3#
-O33(&(5#.1+#>6#-0: : , 1"/D# -O33(&(5#, 1+()#O1 (#FO.)+R#L%"5/O)D#.1+#
`.-Y&)O, 1+#17+7N7#@DT"-33D;#5, -' #FO.)+5#.)(#)(5TO15"F3(#9O)#5(/"1&#.#
FO.)+5#).1&(#O9#T03"-"(5#B"/' #)(&.)+#/O#5D5/(: #T3.11"1&#;. -+(: "-#T)OC
&): : (5#.1+#T)5O11(3;#.+: "55"O15#5/.1+.)+5#.1+#T)O-(+,) (5#.1+#/, /"O17#
@' , 5;#O1(#FO.)+5# .1.&(5#T03"-D#+(! (3OT: (1/#.1+#-00)+"1./"O1#.-)O55#.#
1, : F(#.1+#!)"/(D#O9#"15"/, /"O157#E1#5/./ (5#B')(#"1+"! "+, .3#-.: T, 5#O)#

I J# \$# Z1/' 01D#b"5"1&#Z1/01"0#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

43.)Y#] ();#90)&(+#. #: , 3/"C5/.Y(' 03+())#1(&0/"."01#"1/0#/' (#U01.' 0(#
%&' ()#*+, -./"01#Z-/#.350#Y10B1#.5#/' (#4.3"90)1".#8.5/())#A3.1#90)#
%&' ()#*+, -./"017#@' (#.-/#(5/.F3"5' (+#. #5(&: (1/(+#5D5/(: #09#/')((#
5(-/0)5#B"/' #5T(-.3"d(+9, 1-/"015a#)(5(.)-' #.1+##/(-."1&#, T#/')0, &' #/' (#
+0-/0).3#3(! (3;#, 1+())&).+, ./(#.1+#: .5/()5#3(! (3#(+, -./"01;#.1+#30B())
+!"5"01#.1+#!0-./"01.3#(+, -./"017#*!(1/, .33D#/' (#T3.1#"1-3, +(+#5(T.)./(#
&O! ()1"1&#FO.)+5#.1+##.-)055C5(-/0)#-00)+"1./"1&#FO.)+#90)#/' (#/')((#

@' (#[1"/(+#G/./(5#09#Z: ()"-.# \$# 16

/' (#1.: (5#09##' (#(.)3"(5/#"15"/, /"015;#"1-3, +"1&#%.!)! .)+;#C.:3(;#40)1(33#
.1+#`)0B1;#.)(#"/(+#/0#&(1()0, 5#F(1(9.-/0)57#A, F3"-#, 1"! ()5"/"(5#' .!(#
/).+/"01.33D#F((1#9, 1+(+#: 05/3D#FD#5/./(#.1+#30-.3#&O! ()1: (1/5#.1+;#



@' (# [1'/(+#G/./(5#09#Z: ()"-.# \$# 10

9(+().3#&0! ()1: (1/#'.5#3": "/(+##-01/)03#09#, 1"! ()5"/D#T03"- (57# Z5#B(#
' .! (#10/(+;#!(1#-)(+ (1"'.3"1&#"5#'.1+3(+FD#.&(1-"(5#"1+(T(1+(1/#09#
' (#9(+).3#&0! ()1: (1/7=

@' (#5/), -/,)(#09#(+, -. /"01.3#9"1.1-"1&#!.)"(5##-015"+().F3D#9)0: #5/./(#
/0#5/./(;#.5# #: "&' /#F(# (^T(-/(+##&! (1#/' (#3.)&(#!.)"/"01#"1#T)!./ (W
T, F3"-#' "&' ()#(+, -. /"01#(1)03: (1/7#` (90)(#/,)1"1�/#' ./#!.)"/"01#;
B(#-.1# .1.3D5(#/' (#F)0. +##-.1&(5#9"1# [G#'"&' ()#(+, -. /"01.3#9"1.1-"1&
' ./#/00Y#T3. -(# .9/()#/' (#6H?J57#_1(#B.D#/O#+ (5-)F(#/' (5(#-' .1&(5#"5#
FD#/' (#/0/.3#-,))(1/#)!(1, (5#&O"1�#T, F3"-;#T)!./ (#101CT)09"/# .1+#
T)!./ (#90)CT)09"/#'"&' ()#(+, -. /"01#"15"/, /"0157

@' (#-,))(1/#)!(1, (5#09#F0/' #T, F3"-#.1+#T)!./ (#101CT)09"/#"15"/C
/, /"015#"1-)(.5(+##).T"+3D#"1#/' (#T)"0+#6HIJK>J6J7#@' (5(#)!(1, (5#
) (# .33# (5"/: ./(+##"1#>J6J#+033.)5;#50#)(T)(5(1/#)!(1, (5# .+h, 5/(+##0)#
"193./"01#L5(#@.F3(#>7RN7#@' (#T)!./ (#101CT)09"/#"&' ()#(+, -. /"01#5(-C
/0)\5#)!(1, (#"1-)(.5(+##0: (B' .# #: 0)(#).T"+3D#/' .1#/' (#T, F3"-#5(-/0)#
.1+;#01-(#B(#"1-3, +(#/' (#T)!./ (#90)CT)09"/#5(-/0);#/' (#T)!./ (#'"&' ()
(+, -. /"01#5(-/0)"1-)(.5(+##-015"+().F3D#: 0)(#).T"+3D#/' .1#/' (#T, F3"-7#
@0/.3#)!(1, (5#"1-)(.5(+##, -' #: 0)(#"1#/' (#>JJJK>J6J#+(-.+(#/' .1#1#
(.)3"()#+(-.+ (5;#10/#013D#F(-., 5(#09#/' (#(1)03: (1/#&)0B/' #09#T)!./ (#
101CT)09"/#"15"/, /"015#F, /#.350#F(-., 5(#09#5T(1+"1&#T()#5/, +(1/#"1#.33#
Y"1+5#09#"&' ()#(+, -. /"01#"15"/, /"0157

E/#"5#B"+(3D# (3+##/' ./# [G#"&' ()#(+, -. /"01#"5#F("1/(.+ "3D#nT)!./C

1. 2.4 Current Revenues by Source and Institutional Type, 1970–2011 (2010 Dollars; %)

| P | H. E | 1970 | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2011 |
|-------------------------------------|-----------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Tuition & Fees | | 13.1 | 12.9 | 14.5 | 16.1 | 18.8 | 18.1 | 17 | 18.6 | 20.6 |
| Federal Government | | 13.2 | 12.8 | 10.5 | 10.3 | 11.1 | 11.2 | 14.2 | 17.3 | 17.1 |
| State Government | | 41.5 | 45.6 | 45 | 40.3 | 35.5 | 35.6 | 27.1 | 22.7 | 21.8 |
| Local Government | | 5.4 | 3.8 | 3.6 | 3.7 | 4.1 | 4 | 3.4 | 3.2 | 3.3 |
| Private Gifts/Grants* | | 2.3 | 2.5 | 3.2 | 3.8 | 4.1 | 5.1 | 5.1 | 5 | 5.3 |
| Sales and Services | | 18 | 19.6 | 20 | 22.7 | 22.2 | 21.7 | 16.6 | 16.9 | 18.2 |
| Total Revenue (2010 Dollars) | | 87.1 | 114.3 | 131.8 | 158.4 | 176.7 | 223.7 | 275.6 | 323.8 | 327.2 |
| P | N - H. E | 1970 | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2011 |
| Tuition & Fees | | 36.8 | 36.6 | 38.6 | 40.4 | 43 | 38.1 | 29 | 29 | 38.9 |
| Federal Government | | 13.7 | 18.8 | 16.5 | 15.4 | 13.8 | 16.3 | 12.9 | 11.7 | 14.9 |
| State Government | | 1.7 | 1.9 | 1.9 | 2.3 | 1.9 | 1.4 | 1 | 0.8 | 1.2 |
| Local Government | | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.3 | 0.2 | 0.0 |
| Private Gifts/Grants* | | 10.4 | 9.3 | 9.3 | 8.6 | 9.1 | 19.3 | 12.2 | 10.7 | 13.4 |
| Sales and Services | | 23.8 | 23.3 | 23.4 | 22.9 | 21 | 19.3 | 15.2 | 15.6 | 21.1 |

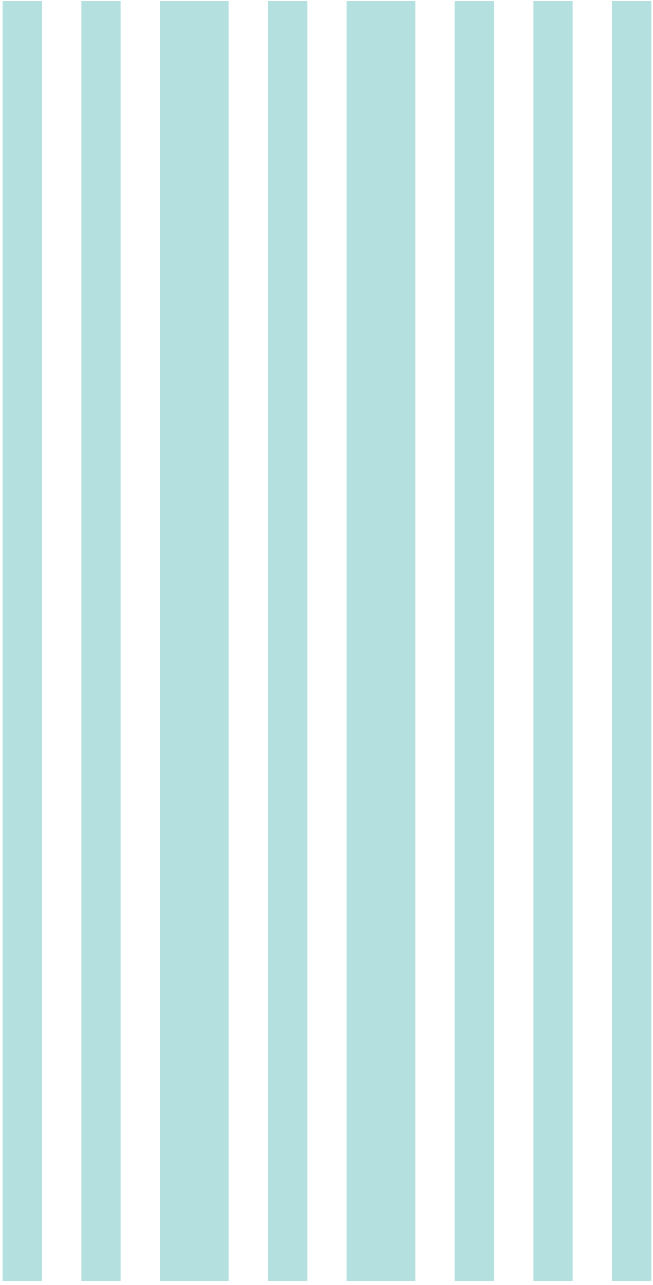
| Total Revenue (2010 Dollars) | 46.7 | 59.3 | 71.8 | 91.6 | 106.6 | 104.1 | 170.5 | 207.2 | 166.9 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| P F - H. E | 2000 | 2005 | 2010 | 2010 | 2010 | 2000 | 2005 | 2010 | 2011 |
| Tuition and fees | 86.1 | 87.5 | 89.1 | 89.3 | | | | | |
| Federal government | 4.6 | 6.5 | 5.6 | 5.7 | | | | | |
| State government | 1.7 | 0.5 | 0.6 | 0.4 | | | | | |
| Local government | | | | | | | | | |
| Private gifts/grants* | 0.1 | 0 | 0.1 | 0 | | | | | |
| Sales and services | 3.6 | 2.2 | 1.9 | 1.9 | | | | | |
| Total revenue (2010 dollars) | 5.4 | 14.1 | 28.2 | 27.7 | | | | | |
| Total revenue: all types of higher education (2010 dollars) | 133.8 | 173.6 | 203.5 | 250.0 | 283.4 | 333.2 | 460.2 | 559.2 | 521.9 |

Source: NCES, *Digest of Educational Statistics*, 1974 (Table 82; Table 141), 1990, 1999, 2005, 2012.
Note: * Does not include endowment income.

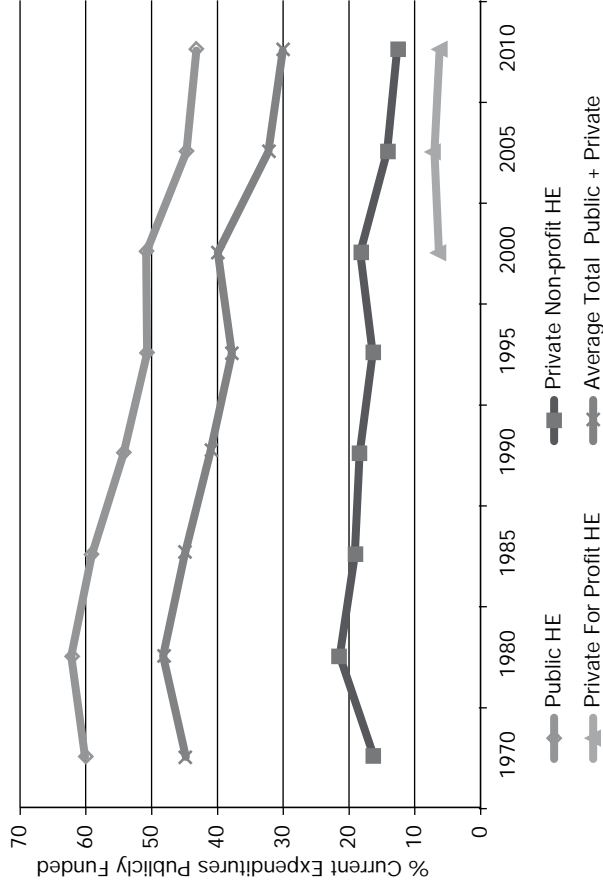
l?# \$# Z1/' 01D#b"5"1&#Z1/01"0#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

[1"! ()5"/" (5;#B)0/(#"1#. #%, 99"1&/01#A05/#.)/"-3(#(1"/3(+;#nG/OTT"1&#/' (#
A)"! ./"d./"01#09#Z: ()"- .1#%"&' ()#*+, -./"01\

@' (#Z: ()"- .1#T, F3"-# ' &' ()#(+, -./"01#9"1.1-(#5D5/(: #5#F)OY(17#G./.(5#
+"5"1! (5/: (1/#"1# " &' ()#(+, -./"01#"1#)(-(1/#+(-. +(5# ' .5#+)"! (1#/, "01#
T)"-(5#(! ()# " &' () ;#T3. -"1&#, 5#./#/' (#T)(-"T"-(#09#. #-033(&(#.990)+.F"3"/D#







F. 2.6 Proportion of Current Higher Education Spending Publicly Funded, by Type of Institution, 1970–2010 (%)
 Source: National Center of Educational Statistics, *Digest of Educational Statistics*, various years, Tables 401, 405, 407 (2012).



1. 2.6 (Continued)

| S | % R | | T | | % R | | F | | G | | % R | | S | |
|----------------|------|------|----------------|------|------|---------------|------|------|------|------|------|------|------|------|
| | 1995 | 2011 | 1995 | 2011 | 1995 | 2011 | 1995 | 2011 | 1995 | 2011 | 1995 | 2011 | 1995 | 2011 |
| Michigan | 23.0 | 26.8 | Vermont | 11.9 | 16.8 | Illinois | 44.6 | 27.4 | | | | | | |
| Missouri | 22.9 | 21.6 | Maryland | 11.8 | 12.3 | Mississippi | 43.8 | 29.3 | | | | | | |
| Arizona | 21.8 | 28.6 | North Carolina | 11.7 | 8.0 | Massachusetts | 43.5 | 27.7 | | | | | | |
| Virginia | 21.6 | 25.0 | Wisconsin | 11.6 | 11.1 | New Jersey | 43.0 | 28.7 | | | | | | |
| New Jersey | 21.5 | 27.7 | Alabama | 11.5 | 9.3 | Tennessee | 42.9 | 29.4 | | | | | | |
| Connecticut | 20.8 | 19.0 | Wyoming | 11.5 | 5.6 | Maine | 42.8 | 35.2 | | | | | | |
| North Dakota | 20.6 | 24.7 | Nevada | 11.2 | 10.4 | Kansas | 42.6 | 34.4 | | | | | | |
| Louisiana | 19.3 | 19.8 | Nebraska | 10.9 | 10.5 | Maryland | 41.9 | 33.5 | | | | | | |
| South Carolina | 18.7 | 32.1 | Mississippi | 10.8 | 9.6 | South Dakota | 41.5 | 25.3 | | | | | | |
| Illinois | 18.1 | 20.3 | Minnesota | 10.4 | 10.2 | Connecticut | 41.2 | 31.8 | | | | | | |
| Oregon | 17.9 | 19.6 | Michigan | 10.3 | 11.0 | Kentucky | 40.0 | 23.9 | | | | | | |
| Wisconsin | 17.8 | 20.2 | Texas | 10.2 | 6.9 | Wisconsin | 39.5 | 33.8 | | | | | | |
| Washington | 17.8 | 21.0 | Pennsylvania | 10.2 | 10.8 | Arkansas | 39.2 | 26.0 | | | | | | |
| Idaho | 17.4 | 25.2 | West Virginia | 9.9 | 7.6 | Louisiana | 38.3 | 34.7 | | | | | | |
| Kansas | 17.4 | 22.8 | Georgia | 9.8 | 10.1 | Missouri | 38.0 | 24.7 | | | | | | |
| Minnesota | 17.4 | 25.0 | California | 9.8 | 8.8 | New Mexico | 37.4 | 29.9 | | | | | | |
| Kentucky | 17.1 | 18.5 | Florida | 9.6 | | | | | | | | | | |

Q?# \$# Z1/' 01D#b"5"1&#Z1/01"0#8.)"1#4.)10D#.1+#47#S05(#<(3501#

.350#!.)"(5#&)(./3D#9)0: #5/./(#/0#5/./(#T)OF.F3D#/' (#5"1&3(#: 05/#": TO)C
/.1/#!.).F3(#)(3./(+#/0#/' (#"1/(15"/D#09#9(+).3#9, 1+"1&#"5#/' (#T)- (1/.&(#

@' (# [1"/(+#/./ (5#0#Z: ()"-.# \$# Q1

Z1#"1/() (5/"1&#i , (5/"01#"5#B' (/ ()#50: (#5/./ (5#&(/# : 0)(#9(+().3#
9, 1+"1�)#" '&' ()#(+, -./"01#/' .1#0/' ()#5/./ (5#F(-. 5(#09#-305())# (3./"015#
F/(B((1#/' (#9(+).3#&0! ()1: (1/#.1+#50: (#5/./ (5#/' .1#0/' ()57#g' (1#B(#
-0))(3./ (#/' (#T)- (1/.&(#09#9(+).3#9, 1+"1# , 1!" ()5"/D#) (! (1, (5#.-)055#
5/./ (5#"1#6HH=#. 1+#>J66#L@.F3(#>7?N#B"/' #B' (/ ()#5/./ (#"5#+0: "1./ (+
FD#S(T, F3"- .15#L6N#0)#U(: 0-)./5#LJN#"1#/' 05(#D(.);#B(#90, 1+#!) D)#0B#
-0))(3./"01#-0(99"- "(1/5#F0/' #"1#6HH=#Lp#=#J76R#N. 1+#>J66#Lp#=#KJ76QNT?#
@' (#T03"/"- .3#.99"3"/"01#09#/' (#5/./ (#LF0/' #"1#6HH=#. 1+"1#>J66;#/' (#
9(+).3#%0, 5(#09#S(T) (5(1/./!" (5#B.5#-01/)033(+FD#S(T, F3"- .15;#F, /#
/' (#G(1./ (#.1+#/' (#A) (5'+(1-D;#FD#U(: 0-)./5N' .+#3"/3(#9# .1D#"193, (1-(#
01#/' (#T)0T0)/"01#09#9(+).3#9, 1+"1�/# , 1!" ()5"/ (57

@' (#+).5/"-#-, /5#"1#5/./ (#.1+#30-.3#T.)/"-T./"01#"1#/' (#9, 1+"1	#
T, F3"-#15"/./, /"015#5#.#9(./,)(#09#/' (#-' .1&(5#"1# '&' ()#(+, -./"01#9"1.1-C
"1&#.-)055#5/./ (5#) (&.)+3(55#09#B' (/ ()#/' (D#' .+#' '&' #T)- (1/.&(5#09#
5/./ (#.1+#30-.3#9, 1+"1&#"1#6HH=#0)#10/7#_13D#/BO5/./ (5#+"+#10/#) (+, -(#
/' (#9).-/"01#09#9, 1+"1&#-0: "1)0: #5/./ (W30-.3#50,)-(5q g D0: "1&#
5/./)"1&#.#.#! ()D#' '&' #3(! (3#09#5/./ (#9, 1+"1&#.1+#.1#0"3C)"-' #5/./ (#.1+#
X(): 01;/#B' () (#/' (#5/./ (#013D#&0/#6R#T)#-(1/#09#"5# '&' ()#(+, -.C
/"01#9, 1+"1)0: #5/./ (#.1+#30-.3#50,)-(5# (! (1#"1#6HH=7# @B#0/' ()#
0"3#5/./ (5q Z3.5Y.#.1+#b0, "5".1.q.350#/00Y#5: .33#) (+, -/"015#"1#5/./ (#
9, 1+"1&#"1#6HH=K>J66;# .1+;#. #9(B#0/' ()#5/./ (5;#5, -' #.5#<(B#c0)Y;#5. B#
) (3./!" (3D#5: .33#+(-) (5(57

Z3/' 0, &' #/' (#9(+).3#&0! ()1: (1/#T)0!"+(5#5, F5/.1/"#) (50,)-(5#/0#

00# \$# Z1/' 01D#b"5"1&#Z1/01"0:#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

@' (# '&' 3D#+(- (1/).3'd(+�! ()1.1-(#09#Z: ()"- .1# '&' ()#(+, -. /"01#' .5#
F((1#/' (#+(9"1"1&#-' .).- /() "5"/-#09#/#5+(! (30T: (1/#5"1-(#/' (#9, 1+"1	#
/' (#S(T, F3"-7#S(3./"!(#/#0#: 05/#0/' ()#-0, 1/)"(5#*1#/' (#B0)3+;#Z: ()"- .1#
' '&' ()#(+, -. /"01#(1h0D5#5/)01/./(#.1+#"15"/, /"01.3#. , /010: D#"1#" /5#
+(5"&1#.1+#9, 1-/"01"1&7#E/#5#-0: : 013D#!"(B(+.#.5#.#50-" .3#"15"/, /"01#;
.1#"15"/, /"01#5()!"12-"(D#FD#T)O!"+"1&#n.#F)O.+())#.1&(#09#50-" .3#
9, 1-/"015#/' ./"#1-3, +(#5, -' # (55(1"/.3# (+, -. /"01.3#3(&.-" (5# .5#/' (#-, 3/"C
!./"01#09#-"#d(15" T;#/' (#T)(5()!./"01#09#-, 3/).3#')/.&(L5#/#.1+#/' (#
90): ./"01#09#"1+"!"+, .3#-' .).- /()# .1+#' .F"/5#09#: "1+\\LP, : TO)/>JJJ#
I 6N7#Z5#B(#+"5-, 55(+#(.))3"()#"1#/' "5#-' .T/();#5, -' #15"/, /"01.3#. , /010: D#
"5#)(93(- /(+#"1#/' (#&O!) ()1.1-(#5/), -/,)(5#09#T, F3"-#-033(&(5#.1+#, 1"! ()C
5"/" (57#<(! ())/' (3(55;#9(+).3#T03"-D#' .5#F((1#.#-01/"1, 0, 5#T)(5(1-(#"1#
"/5#+(! (30T: (1/#(^ (T3"9" (+#FD#T03"- (5;#5, -' #.5#/' (#%./-# Z-;/#/' (#
80))"33#b.1+CP).1/#Z-/5;#/' (#PE7# "33;#/' (#<./"01.3#U(9(15(#Z-/#.1+#/' (#
%&' ()#*+, -. /"01#Z-/5#09#6H?=#.1+#6HI >7#Z5#@)0B#L6HH0N#'.5#10/(+;#
/' (#F)O.+#(99(-/#09#9(+).3# '&' ()#(+, -. /"01#T03"-D#' .5#F((1#/#0+(! (30T#.#
-0: T(/"!" (#. .)Y(/#"1# '&' ()#(+, -. /"01#-' .).- /() "d(+#FD#)(3./"!(3D#B(.Y#
-(1/).3'd(+.#, /' O)/D#.1+#.1#.F5(1-(#09#. #5/)"-/#)(&, 3./O)D#.TT)O.-' 7#@' (#
9(+).3#)O3(#'.5#F((1#"15/), : (1/.3#"1#/' (#&)0B/' #.1+#+(! (30T: (1/#09#
/' (#5D5/(: #F, /;# .5#B(#' .!(#+(5-)"F(+;#.#)/' ()#3'&' /#' .1+#' .5#.330B(+
5/, +(1/#.1+#"1+, 5/)" .3#+(: .1+#.5#B(33#.5#(1/)(T)(1(, .) .3C3"Y(#"15"/, /"01.3#
+(! (30T: (1/#O#5'.T(#/' (#5D5/(: 7#E1#-01/).5;/#/' (#5/./(#)O3(#'.5#*1-)(.5(+
O!) ()#/' : (;#T.)"-, 3.)3D#"1#/' (#3.5/#=J#D(.).5;# .5#/' (#&O!) ()1.1-(#)! .-, : #

@' (#[1"/(+#G/./(5#0#Z: ()"-.# \$# QH

' "&' 3D#5/)./'9" (+#B"/' #' (#9.5/(5/#&)0B"1&#&)0, T;#%"5T. 1"-5;#-3, 5/() (+#
"1#T, F3"-#/BOCD(.)"15/"', /"0157

●# A*+X<8/+0/<8)/0+*'4*+0-</.>}<+*

.1+#6>#T()-(1/#09#A' U#&).+./ (5#9)0: #' /' 05(#/B0#-0, 1/)"(5#"1# 6HH6K>J66#L<G2#>J6R;#@.F3(#>K60N7

- # L%7*)5.-%32J/7+, 4)<<-@)/32+I52/)%@-*+%,)%~7#2)0: #.10/' ()#T()5T(-/'! (;# /' (# (^T305"01#09#' "&' ()# (+, -/'01# (1)03: (1/#"1/()1.'01.33D#"1# +(! (30T"1&#-0, 1/)"(5#.1+#/' (#"1-)(.5"1&#T)0T0)/"01#09#/' (#3.F0,) # 90)-(#B"/' #, 1"! ()5"/D#+(&)((5#"1#+(! (30T(+ #-0, 1/)"(5#"5#T, /"1&#"1-)(.5(+ #T03"/"- .3#T)(55,)(#01#[G#"15"/, /"015#O#(^T.1+#90,)CD.(#) -033(&(#(1)03: (1/#.1+#T.)/"- , 3.)3D#O#": T)O! (#"75&#).+ , /"01#)./(7# A03"/"- .15#.)(#- .5"1&#/' (#1(+ #90)#: 0)(#3.F0,)#B"/' #, 1"! ()5"/D# +(&)((5#.5#-), -.3#90)#[G#(-010: "-#-0: T(/"!"(1 (557

G(T.)./(3D#.1+#"1#-01h, 1-/"01;#/' (5(#/)(1+5#B"33#+(: .1+#9(+).3#./(1C /"017#@# (#1./,)(#09#/' .#.#/(1/"01;#09#-0,)5(#+(T(1+5#"1#T.)/#01#5/./ (5#)) (5T015(5#O#/' (#+(: .1+5#"1#+-./(+ #FD#/' (5(#/)(1+57#20)"#15/.1-(;#"5"1&# -05/5#.1+#T)"! ./"d."01# : .D#)(.-' #.#T03"/"- .33D#, 15/.F3(#T0"1/#.5# : .1D# 5/./ (5#F (&"1#O#(^T)"(1-(#-015(i, (1/" .3#+(-)(.5(5#"1# --(557#E9#(10, &' # 5/./ (5#) (#, 1.F3(#O#) : (+D#/')(.75#O# --(55#01#/' (")#0B1#.#.#9(+).3#503, C /"01# : .D#F(#"1"/. /(+7#@' (#9(+).3#) (5T015(:#B' (/ ()#/')0, &' #5/, +(1/# 9"1.1-" .3#."+;#5/./ (#F30-Y#&#).1/5#O)"#15"/, /"01.3#."+;#B"33#F(#50: (B' ./# , 1T)(-(+(1/(+7#@' (#&O!)01: (1/# .5#"5/0)"- .33D#-/(+ #O#905/()#+(! (3C 0T: (1/#.1+#&)0B/' #"1#/' (#5D5/(: ;#)(3./!"(3D#, 19(//() (+ #FD#) (&, 3./"017# Z#' (.!)()#' .1+# : .D#F(#T)(5-)F(+ #9#/' (#-01+"/"015#+-./(/#') (#-)(./"01# 09#.#5.9(/D#1(/#O#T)0T#, T#/' (#5D5/(: #"1#/' (#9.-(#09#5/.&1./"01#O)#B0)5(;#) (&)(55"017#S(3./!"(/#O#/'5#"5/0)D;#/' (#9(+).3#&O!)01: (1/#B"33#F(#"1#.# , 1"i, (#T05"/"01# , 1+)#/' (5(#-01+"/"015#.1+;#9#-./(+ #, T01;# : .D#5"1'9D# .#1(B# TT)O.-' #/O#9(+).3#T03"-D7

@' (#90)CT)09"/#5(-/0)T)(5(1/5#. #, 1"i, (#-' .33(1&(#/O#9(+).3#) (&, 3.C /"01#09#(+, -/'017#E/#"5#.#)(3./!"(3D#1(B#"15"/, /"01.3#90): ;#F, /#/'#'" .5# .3)(. +D#-.T/,(+ #/' (#.#/(1/"01#09#/' (#9(+).3#&O!)01: (1/7#E1#>J6J;#-01C -()1#0!)#/' (#T00)#&#).+ , /"01;#0F#T3.-(: (1/#.1+#5/, +(1/#30.1#+(9. , 3/#) ./(5#09#90)CT)09"/#15"/, /"015q B' 0#B() (#/' (1#) (-("!"1&#)!(1, (5#09# 0!) ()#eO>#F"33"01#1#9(+).3#30.1#.1+#&#).1/#."+q3(+ #/O#/' (#+((30T: (1/# 09#50C-.33(+ #n&."19, 3#(: T30D: (1/\#) (&, 3./"015#FD#/' (#U(T.)/: (1/#09# *+, -/'017#@' (5#) (&, 3./"015#5(/#5/)"-/#-)/"0".# : (+.#/' (#90)CT)09"/# 5(-/0)# (&.)+1&#(3"&"F"3"/D#O#) (-("!"(9(+).3#5/, +(1/#."+7#@' (#) (&, 3./"015#

@' (#[1"/(+#G/./(5#09#Z: ()"-.# \$# H6

T)OT05(+##/' (#, 5(#09#"1+"-. /O)5#5, -' #. 5#5/, +(1/5\#30. 1#)(T.D: (1/#)./(5#
.1+##+(F/C/OC"1-0: (#)./"05#"1#" '&' C5/.Y(5#.- -0, 1/.F"3"/D#9.5' "01#L/' (#
3O55#09#9(+().3#9, 1+5N7#@' "5#)(3./"! (3D#).)(#. TT)O.- '#/O#T03"-DC: .Y"1&#
: .D#5"&1.3#OT(11(55#/O#. #1 (B#().#"1#9(+().3#' '&' ()#(+, -./"01#T03"-D7
S"5"1&#-05/5#. 1+#"1-).(5(+##-05/#5' .)"1	,)/' ()#T3. -(#/' (#9(+().3#&O!

H># \$# Z1/' 01D#b"5"1&#Z1/01"0#8.)/"1#4.)10D#.1+#47#S05(#<(3501#

g' (/ ()#' (#T)(55,)(#90)#&)(./)##. --0, 1/. F"3"/D#T, 5' (5#5/. / (5#/O#F (&"1# /O#: (.5,)(#! .3, (#. ++ (+\#1#, 1"! ()5"/" (5#. 5#B(33#. 5#/O#: 01"/O)#&). +, ./"01#). / (5#. 1+#, 5(#09#9, 1+"1&#O)#/' (#9(+(). 3#&O! ()1: (1/"#/5(39#"15"/", / (5#/ (5/C "1&#"1#" "&' ()#(+, -./"01;#/' (#&)0B"1&#&. T#F (/B((1#"1-)(.5"1&#-05/5#T))# 5/, +(1/"#1#T, F3"-# "&' ()#(+, -./"01#. 1+#/' (#. ! . "3. F"3"/D#09#T, F3"-#9, 1+"1&# B"33#-01/"1, (#/0#9((+#+(. : .1+5#/' ./#T, F3"-# "&' ()#(+, -./"01#"15"/", /"015# 5' 0B#/' ./#/' (")#-05/#"1-)(.5(5#.) (#. 550-". / (+#B"/' #"1-)(.5"1&#i , .3"/D7

2"1.33D;#"1/()1./"01.3"d./"01#T)0: "5(5#/' ./#/' (#Z: ())-.1#" "&' ()# (+, -./"01#(1/()T)"5(#"5#10#301&())#503(3D#. #+0: (5/"-#"55, (#. 1+#-)/. "13D#

HR# \$# Z1/ 01D#b"5"1#Z1/01"0#8.)#1#4.)10D#.1+#47#S05(#<(3501#

5%&/=7+%, -7/M852)%)3).#0)+#("/01;#(+/'/(+#FD#A7#P7#Z3/F.-';#A7#j7P, : TO)/;#
.1+#S7#_7#)+.'3#0HQKR>?7# .3"/: 0)(#8 U#j0' 15#%0TY"15#[1!)5"/D#A) (557
% (33)# U7# *7#>JJ>7#n2(+).3# 2, 1+5#90)%%"&')#*+, -./"01#7#E1#=%7J72+4)&-5/+0/
=&\$75<+%#Z! ".3.F3(#.#' //TaWWBBB7(1-D-30T(+).7-O: W+O-W6P>CORJO>JJ>R67
'/: 3

%099: .1:#47#87;#G1D+0)#@7#U7;#1+#G011(1F)#6HH?7#B-<#752J/! 257D/M+2)3)/.
5%&/Q%-@)*.-<)._VZbd/+/VZZ[##<4 *G#A, F3"-./"01#<07#H?HJ>N7#G .5 "1&/01;#
U4# [G#U(T.)/: (1/#09#*+, -./"017

%,)3(D;#U7#j7#>J6R7#nG/OTT"1&#/' (#A)! ./d./"01#09# Z: ()-.1#A, F3"-#%"&')#
*+, -./"01#7#Z! ".3.F3(#.#' //TaWW50-.37', 99"1&/01T05/7-O: W+.1"(3ChC',)3(DW
5/OTT"1&C' (CT)! ./d./"0vFvR?61>0J7' /: 3

] ();#47#6H?07#R8)/Q.)./+/<8)/Q%-@)*.-<J7#4.: F)"&(#8Z#%.)!.)+# [1!)5"/D#
A) (557

b. (),): .1;#j7#>J6J.7#n20)CT)09'/#4033(&(5#8"53(+#G/, +(1/5;#g "/1(55(#G.D#7#1 2+, I)"37#
Z! ".3.F3(#.#' //TaWWBBB7F300: F())&7-O: W1(B5W.)/"-3(5#>J6J.CJQCJRW
90)CT)09'/C-033(&(5CF0"3(C)00: C(-), "1&C+(5-)F(+C./C5(1./'(C' (.)"1&

q q q #>J6JF7#n20)CT)09'/#4033(&(5#4' .)&"1P)(#g "3(#U"1&#b(55#90)#b0BC#
"1-0: (#2.: "3(5#7#1 2+, I)"37# Z! ".3.F3(#.#' //TaWWBBB7F300: F())&7#
-0: W1(B5W.)/"-3(5#>J6J.C6>C06W90)CT)09'/C-033(&(5C-' .)&"1&C: 0)(CB"3(C
+0"1&C3(55C90)C30BC"1-0: (C9.: "3(5

8.Y;#j7;#1+#801-;);#j7#>JJ07#nE1/05/./(#8"&)./01#09#4033(&(2)5' : .1#7#; %52./
+0/G)3+52/??)#01#?JOK?6>7

8-U011(33;#b7# 87#>JJ=7#n<0#4' "3+#b(9/#` ('"1+#.1+#/' (#2(+).3# S03(#"1#
+, -./"01#! 03, /"01#0)#(!03, /"01r#F)51+#JN+\$"52/+0/=&\$75<+%#QJ#L#N#6HK007

8-P, "11(55;#Z1# 47#>JJ07#H+#&)2./+0/F+.<.)7+%5*J'/=&\$75<+%#M++*-%5<+%#5%&/
A+@)%5%7)/-%/8)/?5<).7#U(1! ();#4_a#*+, -./"01#40: "55"01#09#/' (#G.//(57#
Z! ".3.F3(#.#' //TaWWBBB7T5, 7(+, W, 95W.FO, /v5(1.//(W-0: " //(5W, 1"!C&O! W
: 0+(3509T05/5(-01+.)D&O!()1.1-(7T+9

S-' .)+501;#S7#47;#) --0;#] 7#S7;#4.33.1;#A7#87;#1+#2"11(D;#j7#*7#6HHQ7:)-.3%-3/
?5<)/B-38)*/=&\$75<+%/?J.<)./0+*/5/`)X/M)%-\$*J7#A' O(1"^(#Zz#_)D^#A) (557#
Z! ".3.F3(#.#' //TaWW())"-7(+7&O! W#*+*UR=>=?I H

S"dd0;#87#j7;#1+#*') (1F)&#;#S7#P7#>JJ07#nS(5'+(1/#.1+#<01C)(5'+(1/#@, /"01#
.1+#*1)033: (1/#.#23.85"TG/./([1!)5"/(5#7#g 0)Y"1&#A.T()#<07#H=6?;#
<./"01.3#`)(. , #09#*-010: "-S(5(.)-' ;#4.: F)"&(#8Z7#S/)!((+#9)0: #
//TaWWBBB71F(70)&WT.T()5WBH=6?

G-' : "+/;#A7#>J607#nG.T(((#40.)/#A, /5#099#` `&#b(&.3# f, (5/"015# "1#
@(^.5#Z99"): ./"/(CZ-/01# 4.5(7#R8)/M8*+%72)/+0/B-38)*/=&\$75<+%#
j, 1(#>R7#90015121.#' //Ta(-)1(*' 1/0(-)1&C3>R7)1(-)10: >R7F73("1F>R7!, B5W.) (5)1

@' (#[1"/(+#G/./(5#0#Z: ()"-.# \$# H=

G1D+();#@7#U7;#.1+#%099: .1;#47#87#>JJJ7#: -3).</+0/ =&\$75<-+%/ ?<5<.<7./VZZZ#
<./"01.3#4(1/()#90)#*+, -./"01#G/./"5"-57#Z!. "3.F3(#.#' //T5aWW1-(57(+7&O!W
T, F5(.)-' WT, F5"1907.5TrT, F"+=>JJJJ06
q q q 7#>JJ07#: -3).</+0/ =&\$75<-+%/ ?<5<.<7./TUUT7# <./"01.3#4(1/()#90)#

/' (#2)(1-' #-0301"(5#"1#<0)/' #Z: ()"-.:# .3/' 0, &' ;#"1#: .1D#B.D5;#"/#
B.5#/' (#Z: ())-.1#S(!03, /"01;#.1+##/' (#: 0! (: (1/#10)/' #09#/(15#09#
/' 0, 5.1+5#09#-0301"5/5#30D.3#/0#/' (#4)0B1#90330B"1&#/' (#+(9(./#09#/' (#
`)"/5' #.): "(5;#/' ./#T)0!"+(+##/' (#": T(/, 5#90)#/' (#(: ())&(1-(#09#/' (#
9")5/#"15"/, /"015#09#" '&' ()#(+, -./"01#Lj01(5#6HH?;#>J6RN7#` D#/' (#: "+C
1"1(/((1/' #- (1/,)D;#/' (#): ."1"1&#`)"/5' #-0301"(5#"1#<0)/' #Z: ()"-.:#

1. **3.1 Area, Population and Unemployment Rate of Canada's Provinces and Territories**

| Province/Territory | Area (km ²) | Population (2014) | Population Density (per km ²) | Unemployment Rate (%) | Population (2014) | Unemployment Rate (%) |
|-----------------------|-------------------------|-------------------|---|-----------------------|-------------------|-----------------------|
| Alberta | | | | | | |
| British Columbia | | | | | | |
| Manitoba | | | | | | |
| Ontario | | | | | | |
| Quebec | | | | | | |
| Saskatchewan | | | | | | |
| Atlantic Provinces | | | | | | |
| Northwest Territories | | | | | | |
| Yukon | | | | | | |
| Nunavut | | | | | | |

4.1.+.#\$HH

6JJ# \$# P3(1#Z7#j01(5#.1+#4')5"/.1#<0, : "

(^T.1+(+##/5#, 1"! ()5"/D#5(-/0);#F, /##' .+#.350#-)(./(+##1(B#"15"/, /"01.3#
/DT(5;#-0: : 013D#-.33(+##-033(&5;#/' ./#099() (+#/(-' 1"- .3#.1+##! 0-./"01.3#



6J># \$ P3(1#Z#j01(5#.1+#4')5".1#<0, : "

/O#/' (#5(1./(#Lj01(5#>JJ>N7#@' (5(#T)O! "1-".3#.-/5#O9#"1-0)TO)./'O1#.)(#
,5,.33D#,1'i,(#/O#(-.'#"15"/,/'O1#;#(^-(T/#"1#`)"/'5"#403,:F".#.1+#
Z3F)/.#B')(#,1"!)5"/(5#OT)./(# ,1+)#3(&"53./'O1#/' ./#&O!)15#.33#
,1"!)5"/(5#.1+#(-.'#.-/5T(-"9"(5#/' (#,1'i,(#&O!)1.1-(#5/),-/,)(#O9#
(.-'"#15"/,/'O17

[1"!)5"/(5#.)(#)(3./!(3D#.,/O10: 0,5#"15"/,/'O15#-)(./(+#.1+#)(&,C
3./(+#FD#/' (#T)O!"1-(57#E1#.++'/'O1#/#O#/' (")#O3(#"1#-)(./"1&#,1"!)5"/(5;
' (#)(&,3./O)D#)O3(#O9#/' (#T)O!"1-.3#&O!)1:(1/5#'.5#90-,5(+#3.)&(3D#
O1#"55,(5#O9#9,1+"1&#.1+#.--0,1/.F"3"/D7#P!O!)1:(1/#OT)./'"1&#&).1/5#
.1+#/.)&/(+#9,1+"1&#:(-'.1"5:5#'.!#F(-0:(#/'(#90,1+.'/'O1#90)##'(#
)&(3./"O1#.1+#5/(()"1&#O9#/' (#"&')#(+,-.'/'O1#5D5/(:7#Z--0,1/.F"3"/D#
:(-'.1"5:5#'.!(#3.)&(3D#90-,5(+#O1#"55,(5#O9#9,1+"1&#.1+#.--(557#
P(1O).33D#5T(.Y"1&#;/' (#"55,(#O9#i,.'3"/D#'.5#)(-(!(+#i,/'(#:O+(5/#
./.(1/'O1#B"/' "1#/' "5#)(&,3./O)D#(1!")O1:(1/;#./#3(.5/#"1#-0:T.)"5O1#/#
:.1D#O/')#1.'/'O15;#.1+#:O5/#T)O!"1-(5#.55,:#/' ./#"55,(5#O9#i,.'3"/D#
.1+#5/.1+.)+5#.)#F(5/#3(9/#"1#/' (#'.1+5#O9#"1+"!"+,3#"15"/,/'O15#O)##"1#/' (#
' .1+5#O9#/' (#,1"!)5"/D#5(-/O)#.5#.#-O33(-/'!(#Lg("1)"F#.1+#j01(5#>J6RN7

B\$%&.1% .A'=&. ;"/+" ,1# .;%&/5%/ -3"
"/-.\$%#C-%&/ ,1# .;%&/ ,/+%.A"/3-"*"-./3

Z5#B(#'.!(#3)(.+D#10/(+;#/' (#4.1.+".1#-015"/,/'O1.3#..).1&(: (1/#
-3(.).33D#.55"&15#)(5TO15"F"3"/D#90)##(+,-.'/'O1#/#O#/' (#T)O!"1-(5#.1+;#B"3(#
'/"5#"5#10/#,1-0: :O1#"1#O/')#9(+).3#5D5/(:5;#B' ./#"5#3(55#-0: :O1#
"5#/' (#9.-/#/' ./#/' (#).).1&(: (1/#'.5#3.)&(3D#3: "/(+##/' (#9(+).3#&O!)1C
:(1/5#+)(-/#"1!O3!:(1/#"1#"&')#(+,-.'/'O1#.5#.1#(^T3"-/#.).(#O9#
TO3"-D7#@')(#"5#10#1.'/'O1.3#: "1"5/();#: "1"5/)D#O)##+(T.): (1/#O9#(+,C
-.'/'O1#90)##"&')#(+,-.'/'O1#.1+##/')(#"5#10#1.'/'O1.3#"&')#(+,-.'/'O1#
TO3"-D7#%&')#(+,-.'/'O1#"1#4.1.+.#"5#F(5/#,1+)5/OO+#.5#/' (#5,:#O9#
60#i,/'(#+"99)(1/#.1+##+"5/"1-/#T)O!"1-.3#.1+##/())"O".3#5D5/(:5;#(-.'#
B"/' #/"5#OB1;#,1'i,(#)(&,3./O)D#(1!")O1:(1/#Lj01(5#6HHIN7

@' (#5/.)/"1&#TO"1;/#/')#(90)(;#90)#,1+)5/.1+"1&#/' (#(^/O)1.3#&O!)1C
.1-(#O9#"&')#(+,-.'/'O1#"15"/,/'O15#"1#4.1+.#"5#/' (#)(-O&1/"O1#/' ./#

-0: TO5(+#O9#FO.)+#: (F)5;#9.-,3D;#5/,+(1/5#.1+#O/')#-015"/, (1-"(5;#50: (#
)(-/O)5#O9#F,(F(-#,"1"!)5"/(5#.)#(3(-/(+9)O:#B"/' "1#/' (#,1"!)5"/D7

/' (#30-, 5#09#-01/)03#0! ()#' '&' ()#(+, -. /"01#T03"-D#)(5/5#B"/' #' (#)(&"01.3#
LT)0!"1-(W/())"/0)DN#&O! ()1: (1/7#*. -' #T)0!"1-(#. 1+##/())"/0)D#' .5#
+(! (30T(+##. #' '&' ()#(+, -. /"01#5D5/(: ##+(5"&1(+#/O#. ++)(55#/' (#1((+5#09#
/' (#), "5+-. /"01;#. 1+##B' "3(##/' ()(#.)(#-0: : 01;#T.1C4.1.+."1#/' (: (5;#
(. -' #T)0!"1-.3#5D5/(: #5#, 1"i, (7#@')(#.)(#": T0)/. 1/#+99() (1-(5#"1#
/(): 5#09#5/), -,)(:#"15"/, /"01.3#/DT(5;#)(&, 3."/01;#9, 1+"1&#. 1+##9((5#
L2"5')#(#.37#>J6RM#/' (5(#+99() (1-(5#.) (#) (!" (B(+#"1#; 0)(#+(/."3#') (7

G"1-(# (+, -. /"01#. 1+##' '&' ()# (+, -. /"01#.) (#/' (#) (5T015"F3"/" (5# 09#
/' (#T)0!"1-(5#. 1+##/())"/0)"(5;#/' (#1."/01.3#F0+D#)(T)(5(1/"1&#&0! ()1C
: (1/"1#/' (5(#T03"-D#.) (5#"5#10/#/' (#P0! ()1: (1/#09#4.1.+.;#F, /##/' (#
40, 1-"3#09#8"1"5/()5#09#*+, -. /"01;#4.1.+.#L48*4N7#@' (#48*4#"5#
.1#, : F)(33.#0)&.1"d. /"01#-0: T05(+09#/' (#: "1"5/()5#09#(+, -. /"01#. 1+##
' '&' ()#(+, -. /"01#9)0: #(-' #), "5+-. /"017#@' (#48*4#5(-) (/.) .#B0)Y5#
01#F ('.39#09#/' (#: "1"5/()5#0#9.-"3"/. /(#/' (#(^-' .1&(#09#"190): . /"01;#. 1+##
+(! (30T#-0: : 01#9): (B0)Y5#. 1+##-033.F0) /" (!"1"/. /" (!57#E1#/)(): 5#09#
' '&' ()#(+, -. /"01;#/' (#40, 1-"3#'. 5#+(! (30T(+#1."/01.3#"1+-. /)0)5#. 1+##.
+(&)((#i, "3"9-. /"015#9): (B0)Y;#F, /#"5#)03(#.5#. #T03"-D#0)#-00)+1."/1&#
&(1-D#"5#F((1#)(3. /" (!3D#B(.Y#Z11, .3#-' .1&(5#"1#3(. +)5" T#. 1+##/' (#
) .T"+##,)10! ()#09#T)0!"1-.3#: "1"5/()5#. 1+##+(T, /D#: "1"5/()5#'. ! (#+01(#
3"/3(#/0#9,)/' ()#/' (#-. , 5(#09#5, 5/."1(+#T.1C4.1.+."1#-00)+1."/01;#. 1+##
/' ()(#.)(#)(3. /" (!3D#9(B#T)(55,) (5#01#/' (#T)0!"1-(5#/O#: 0! (#/O#. #: 0)(#
-0: : 01#T03"-D#. TT)0.-' 7# U"99() (1-(5#"1#/' (#5"d(#TOT, 3."/01#. 1+##
9"1.1-"3#-)-, : 5/.1-(5#09#/' (#T)0!"1-(5#. 1+##/' (")#' '&' ()#(+, -. /"01#
5D5/(: 5#.350#: (.1#/' .#/' (#T03"-D#-' .33(1&(5#09#A)"1-(#*+B.)+##E5.1+##

6J?# \$# P3(1#Z7#j01(5#.1+#4')"5"/.1#<0, : "

.)(#O9/(1#3"1Y(+##/O#.)(.5#O9#)(5(.)-' #!"(B(+#.5#5/)./(&"-.33D#": TO)/.1/#
.1+#' .! (#.#+")(-/#O)#"1+")(-/#5/()"1&#(99(-/#O1#/' (#5(-/O)#L2"5')#(/#.37#
>JJ?V#j01(5#.1+#g ("1)"F#>J66N7#Z#1, : F()#O9#/' (#T)O!"1-(5#' .!(#.35O#
-)./(+#: O+(5/#9, 1+"1&#: (-' .1"5: 5#/O#5, TTO)/#, 1"! ()5"/D#)(5(.)-' #.1+#
"110!../"O1;#"1#5O: (#-.5(5#.5#.#: (-' .1"5: #/O#3(! () .&(#"1-)(.5"1	(+().3#
&O! ()1: (1/#9, 1+"1&#;#O)#/O#T)O!"+(#5/.)C, T#9, 1+"1	O)#3O-.3#)(5(.)-' ()5#
5O#/' ./#/' (D#B"33#" .!(#&)(./()#OTTO)/, 1"/(5#9O)#5, --(55#B"/' "1#1../"O1.3#
)5(.)-' #-O: T(/"/"O157#2(+().3#.1+#T)O!"1-.3#)(5(.)-' #9, 1+"1&#.&(1C

T)O!"1-(5#'.!(#+")(-/#)(5T015"F"3"/D#9O)#' '&' ()#(+, -./"O1#L@)"3OY(Y.)#
.1+#jO1(5#>J6OV#@)"3OY(Y.);#jO1(5#.1+#G', F()/#>JJHN7

@' (#)O3(#O9#/' (#9(+).3#&O! ()1: (1/"1#/' (#&O! ()1.1-(#O9#' '&' ()#
(+, -./"O1#"1#4.1.+.#-.1#F(#5((1#.5#-O: T3(^#.1+#: , 3/"9.-/(+7#@' (#
T)O!"1-(5# T3.D#/' (#-(1/).3#)O3(#"1#/' (#-OO)+"./"O1#.1+#9, 1+"1&#O9#
' '&' ()#(+, -./"O1;#.1+#/' (D#' .!(#+(! (3OT(+##"5/"1-/"! (#' '&' ()#(+, -./"O1#
5D5/(: #.)).1&(: (1/5#"1#O)+()#/O#.++) (55#T)O!"1-.3#1((+57#@' ()(#"5#10#
(^T3"-"/#9(+).3#&O! ()1: (1/#)O3(#"1#' '&' ()#(+, -./"O1;#(5T(-.33D#"1#/' (#
, 1"! ()5"/D#5(-/O);#F, /#/' (#&O! ()1: (1/#"5#+")(-/3D#"1!O3! (+#"1#. #B"+(#
) .1&(#O9#TO3"-D#.) (.5#/' ./#.) (#(^/)(: (3D#": TO)/.1/#/O#' '&' ()#(+, -./"O1;#
5, -' #.5#)(5(.)-' #.1+#"11O!./"O1;#5/, +(1/#9"1.1-.3#.55"5/.1-(#.1+#"1/()C
1./"O1.3#(+, -./"O17#E1#5O: (#O9#/' (5(#.) (.5;#/')(#"5#O! ()3.T#F(/B((1#

6J0# \$# P3(1#Z7#J01(5#.1+#4')"5"/.1#<0, : "

B"/' "1#/' (#, 1"! ()5"/D#5(-/0);#F, /#/' ()(#"5#10B#50: (#+"99() (1"/."01#"1#
"15"/, /"01.3#-. /(&O)"(5#B"/' "1#/' (#, 1"! ()5"/D#5(-/0)5#09#`)" /"5' #403, : F". #
L/')0, &' #/' (#(: ()&(1-(#09#/(. -' "1&C90-, 5(+#, 1"! ()5"/" (5N#. 1+#Z3F ()). #
L, 1+()#/' (#A05/5(-01+.)D#b(.)1"1&#Z- /;#B' "-' # (5/. F3'5' (5#. #5)"(5#09#
"15"/, /"01.3#-. /(&O)"(5#B"/' "1#/' (#T)O!"1-" .3#5D5/(: V#5((#j01(5#>JJHN#
.1+#/' (#/OT#6=#)(5(.)-' # "1/(15"! (#, 1"! ()5"/" (5#'. ! (#90): (+# [6=#. 1+#
/ .Y(1#5/(T5#/OT05"/"01#/' (: 5(3! (5#.5#. #+"5/"1-/"! (#5, F-./(&O)D#09#, 1"C
! ()5"/" (57#%OB(!) ;# .3: 05/#.33#4. 1. +". 1#, 1"! ()5"/" (5#F(301&#/O#/' (#5. : (#
1./"01.3#, : F)(33.#.550-." /"01#L [1"! ()5"/" (5#4. 1. +.N#. 1+#(-' #, 1"! ()5"/D#
.-.(T/5#O/')#4. 1. +". 1#, 1+()&).+, ./(#+(&)((#T)O&). : : (5#.5#(i, "! .3(1/#
/O#/' (")#0B1V#/' ()(#' .5#F((1#10#1((+#90)#&).+, ./(#0)#, 1+()&).+, ./(#
.+: "55"015#/(5/5#Lg ("1)"F#. 1+#j01(5#>J6RN7

B\$%' +. 11%#%3%+- . &

E1#-01/).5/;#/' (#-033(&(5#5(-/0)#L/' (#mO/')\#5(-/0)#B"/' "1#T)O!"1-" .3#5D5C
/(: 5N#5#-0: T05(+ #09#i , /(#+"99() (1/#15"/, /"01.3#/DT(57#E1#/' (#+(! (3OTC

Z)/5#.1+#@(-' 1030&D#B()(#10/#.55"&1(+.#.#/).159()#9, 1-/'01;#.1+#50#/' (D#
B()(!)"(B(+.#.5#099)"1&#.1#.3/()1./"!(#T./' B.D#90)#5/, +(1/5#B' 0#: "&' /#
10/#(1/()#, 1"! ()5"/D;#0)#B' 05(#'1/() (5/5#B() (#'1#/'(-' 1"- .3W! 0-./"01.3#0)#
/).+(5#T)0&).: : (5#/' ./#B()(#10/#.550-"/(#B'/' #' (#, 1"! ()5"/D#5(-/0)7

g ' "3(#/' "5#F00Y#90-, 5(5#T)": .)"3D#01#/' (#, 1"! ()5"/D#5(-/0);#/'#"5#
": T0)/.1/#/0#10/(#/' ./#/' (#/(): #n' "&')#(+, -./"01\#"5#!"(B(+.#.5#5D1C
01D: 0, 5#B'/' #T05/5(-01+.)D#0)#/()/".)D#(+, -./"01#"1#/' (#4.1.+."1#
-01/(^/#.1+#50#T)0!"1-".3#5D5/(: 5#09#" "&')#(+, -./"01#.)(#!)"(B(+.#.5#

66J# \$# P3(1#Z7#J01(5#.1+#4')"5"/.1#<0. : "

(+, -/"01#90330B"1&#g o)3+#g.)#EE#'. +#3.)&(3D#(: T' .5"d(+#. --(55# /O#T, F3--3D#9, 1+(+;#5(-, 3.)#"15"/, /"015#.1+#T)"! ./(#+(10: "1."/01.3# "15"/, /"015#(') #.99"3'./(+#B"/' #5(-, 3.)# , 1"!)5"/(5#0)#F(-.: (#5(-, 3.)# , 1"!)5"/(5# GO: (# T)O!"1-(5#' .!(# .TT)O! (+#/' (#-./"01#09#T)"! ./(# , 1"!)5"/(5#.#1+#/')(#.)(#10B#.TT)O^": ./ (3D#6H7#@.F3(#070#T)O!" + (5# "190): ./"01#01#/' (#1, : F)O#09#T)"! ./(#"15"/, /"015#FD#T)O!"1-(7

__1-(#.&."1;#+#99() (1/#T)O!"1-(5#' .!(#+#99() (1/#TO3"-(#01#T)"! ./(# "15"/, /"015#Z33#09#4.1.+.\5#T)"! ./(#, 1"!)5"/(5#-.1#F(#90, 1+#"1#9!" (# T)O!"1-(5#.1+# (#.' #09#/' (5(#T)O!"1-(5#' .5#+!(30T(+#. #: (-'.1'5: # 90)#)!"(B"1&#T)OT05.35#90#T)"! ./(#, 1"!)5"/(5#0)#90# .330B"1&#T)"! ./(# , 1"!)5"/(5#/'0#099()#+(&)(#T)O&.: : (57#@' (#! .5#/: .hO)/D#09#/' (5# T)"! ./(#, 1"!)5"/(5#.)(#5: .33#9.'/' CF.5(+#"15"/, /"015#;# O, &' #'/ (D#.350# "1-3, +(5#(-, 3.)#10/C9O)CT)O9"/#, 1"!)5"/(5#L(7&7#F, (5# [1"!)5"/D#"1# `)"#5' #4O3, : F.#.1+#5(-, 3.)#90)CT)O9"/#"15"/, /"015#L(7&7;#C)O)Y!"33# [1"!)5"/D#"1#<(B#`), 15B"-Y#W

Z#! .5#/: .hO)/D#09#"15"/, /"015#-3.55"9"(+#.5#T)"! ./(#-O33(&(5#-.1#F(# 90, 1+#"1#F, (F(-#.1+#.)(#T)"! ./(#)(3"&"O, 5#4 *P* A5# #: .1D#09#B' "-' #)(-(! (#T, F3"-#5, TTO)/#F, /#.)(#-3.55"9"(+#.5#T)"! ./(#F(-., 5(#09#/' (") # +(10: "1."/01.3# .99"3'./"017#@')(#"5# .#3.)&(#T)"! ./(#-.)()#-O33(&(5 (-/O);# (5T(-.33D#"1#/' (#T)O!"1-(5#09#`)"/'5' #4O3, : F' ;#Z3F)/.#.1+# __1/.)"07#@' (5#.)(#T)"! ./(#!O-./"01.3#5-' 0035#OT)./"1&#, 1+(#T)OC !"1-.3#)(&, 3./"01;#).1&"1&#"1#5"d(#9)O: #!)D#5: .33#5T(-.3"d(+#5-' 0035# 099)"1&#T)O&): : (5#"1#' .)"#5/D3"1&#O)#/, -Y#+)"! "1&#/'O#3.)&);# : O)(# -O: T)' (15"!(#-O33(&(5#/' ./#: "&' /#099()#.#).1&(#09#! O-./"01.3#O)#/(-' 1"C -.#3#T)O&): : (5#_#/')#-./(&O)"(5#09#T)"! ./(#TO5/5(-O1+.)D#"15"/, /"015# "1-3, +(3.1&, .&(#5-' 0035;#/' (O3O&"- .3#5-' 0035#.1+#"1/()1./"01.3#"15"/, C /"015#L9O)"&1#T)"! ./(#"15"/, /"015#OT)./"1&#.5./ (33/'(#-.: T, 5N7#__1-(# .&."1;#/' (5(#"15"/, /"015#.)(#&(&, 3./(+#FD#/' (#T)O!"1-(5#.1+#+"99() (1-(5# "1#T)O!"1-.3#)(&, 3./"01#L.1+#09#-O,)5(#/' (#5"d(#09#T)O!"1-.3# : .)Y(/5N# .55"5/#"1#(^T3."1"1&# : .hO)#+"99() (1-(5#"1#/' (#1, : F)O#09#"15"/, /"015#FD# -./(&O)D#FD#T)O!"1-(7

1. **3.3** Number of Private Postsecondary Institutions as of 2013, by Province

| | P ₁₃ | UB | C | C ₁₃ | L ₁₃ | T ₁₃ | JR ₁₃ | JR ₁₄ |
|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|
| | | S ₁₃ | S ₁₄ | S ₁₃ | S ₁₄ | S ₁₃ | S ₁₄ | S ₁₄ |
| British Columbia | 4 | 8 | 317 | 55 | 16 | 4 | | |
| Alberta | 5 | 2 | 147 | 6 | 15 | 7 | | |
| Saskatchewan | - | 1 | 37 | - | 5 | - | | |
| Manitoba | 3 | - | 52 | 1 | 2 | - | | |
| Ontario | 2 | 5 | 601 | 47 | 17 | 5 | | |
| Quebec | - | 51 | 17 | 15 | 7 | - | | |
| New Brunswick | 5 | - | 59 | - | 2 | - | | |
| Nova Scotia | - | - | 44 | 5 | - | - | | |
| Prince Edward Island | - | - | 18 | 1 | 1 | - | | |
| Newfoundland and Labrador | - | - | 23 | - | 1 | - | | |
| 1 | 19 | 67 | 1,315 | 130 | | | | |

66># \$# P3(1#Z7#j)01(5#.1+#4')5"/.1#<0, : "

3(! (35#09#&O! ()1: (1/#T)0! "+ (#9, 1+5#/O#, 1"! ()5"/" (5;#"/' ()#"1#/' (#90): #09#



66R# \$# P3(1#Z7#)01(5#.1+#4')"5"/.1#<0, : "

)/. 159()5#/0#/' (#T)O!"1-(57#G "'3(#/' (#9(+).3#&O! ()1: (1/#F)"(93D#T)O!"+(+#9, 1+5#+)")(-/3D#/O#"15"/, /"O15#+,)"1&#/' (#(^T.15"O1#O9#/)").D#(+, -./"O1#9/()#G O)3+#G .)#E;#T)O!"1-(5#i, "-Y3D#.55O)/(+#/' (")#-015"/, /"O1.3#)"&' /5#.1+#/' (#9, 1+5#90)#/()/".)D#(+, -./"O1#B()(#!(1/, .33D#"1-3, +(+"1#/' (#T. -Y.&(#O9#50-"3#)/. 159()5#/0#/' (#T)O!"1-(5#LjO1(5#(/#.37#>J6RN7

9-*)%/-"A"/, /+, '1'3* ==. &-

E1#4.1.+.;#5/, +(1/5#' .!(#.--(55#/O#.5(/#O9#-0: T3(^#9(+).3;#T)O!"1-.3# .1+#hO"1/3D# .+: "1"5/()(+9"1.1-.3# ."+#T)O&).: : (57#E1#(55(1-(:#/' (#1((+CF.5(+9"1.1-.3#5, TTO)/#T)O!"+(+#/O#"3"&F3(#5/, +(1/5#"5#/' (#)5, 3/#O9#"1/(&)./(+#30.1#.1+#F,)5.)D#T)O&).: : (5#F/#B((1#/' (#9(+).3#&O! C()1: (1/5#4GbA#.1+#/' (#T)O!"1-(57#@' (#4GbA#T)O!"+(5#?J#T()#-(1/#O9#5/, +(1/5#\9"1.1-.3#5, TTO)/#.1+#T)O!"1-.3#&O! ()1: (1/5#/.Y(#-.)(#O9#/' (#): ."1"1&#RJ#T()#-(1/7#F, (F(-#"5#/' (#O13D#T)O!"1-(#/' ./#+0(5#10/#T.)/"-T./(#"1#/' (#4GbA#\15/(.+;#"/# .+: "1"5/()5#"5#0B1#T)O&).: : (#/')O, &' #.#5T(-.3#9(+).3#)/. 159()#T.D: (1/#L8.-3.)(1#>J6RN7

E1#>J66;#/' (#4GbA#T)O!"+(+O! ()#e>#F"33"O1#"1#30.15#/O#: O)(#/' .1#RJJ;JJJ#5/, +(1/5;#)T)5(1/"1&#OR#T)O#-(1/#O9#9, 33C/" : (#5/, +(1/5;#.1+#/' "5#T)O-(1/.&(#"5#T)Oh(-/(+#/O#"1-)(.5(#L_99"-(#O9#/' (#G, T)O"1/(1+(1/#O9#2"1.1-.3#E15"/, /"O15#>J6>N7#Z/)"F, /"O1#O9#9"1.1-.3#.55"5/.1-(#"5#+(-(+;#./#/' (#T)O!"1-.3#3(! (3;#B'/' #(!-'#T)O!"1-(#' .!"1&#"5#0B1#-)"C/()".#9O)#+(/(): "1"1&#"3"&F"3"/D7#Z5#. #-015(i, (1-(;#/' (#.!).&(#. : 0, 1/#.5/, +(1/#)("-!"(5#B"33#F(#+(/(): "1(+#FD#9.-/O)5#5, -' #.5#9. : "3D#"1-0: (#.1+#T)(C5/, +D#"1-0: (#L8.-3.)(1#>J6RN7#8O)(O!();#T)O!"1-(5#+99O)#"1#/' (#.TT)O.-' #/' (D#, 5(#/O#O995(/#/' (#-05/#O9#/, /"O1#9O)#5/, +(1/#30.1#)(-"T"(1/5#20)#"15/.1-(;#_1/.)O#T)O!"+(5#.#OJ#T()#-(1/#O99#O9#/, /"O1#9O)#5/, +(1/#)5#+(1/5#/' ./#: ((/#-O)/."1#9. : "3D#"1-0: (#)(i, ") : (1/5#B' "3(#"1#<O! #G-O"/. ;5/, +(1/#-.1#/.Y(#.+! .1/.&(#O9#30.1#9O)&"! (1(55#9O)#/' (#T)O!"1-.3#T)O)"O1#O9#/' (")#30.157

O9#&O! ()1: (1/#9"1.1-.3#)(TO)/57#E1#/' (5(#T)O!"1-(5;#/' (#&O! ()1: (1/#
-305(3D#: O1"/O)5#,"1! ()5"/D#9"1.1-(#.1+##. :D#3": "/#/' (#9"1.1-.3#"+1+(C
T(1+(1-(#O9#, 1"! ()5"/(5#FD:#90)#(^.: T3(:#3": "/"1&#/' (#.F"3"/D#O9#/' (#
,"1! ()5"/D#/O#FO))OB#9, 1+5#5"1-(#, 1"! ()5"/D#FO))OB"1&#: .D#'.! (#.1#
": T.-/#O1#/' (#T)O!"1-.3#&O! ()1: (1/\5#-)(+/#)./"1&7#E1#O/' ()#T)O!"1-(5;
, 1"! ()5"/(5#.)#(&.)+(#.5#9"1.1-.33D#"+1+(T(1+(1/#)O: #&O! ()1: (1/#
.1+;#B' "3(#/' ()(#.)#-3(.:3D#)(TO)"/"1&#.1+##. --0, 1/.F"3"/D#)(i, ")(: (1/5#
.550-."/(+#B'/' #)(-"! "1&#&O! ()1: (1/#&).1/5;#, 1"! ()5"/(5#'.! (#/' (#3&.3#
.F"3"/D#O#: .Y(#"+1+(T(1+(1/#9"1.1-.3#+(-"5"O15;#"1-3, +"1&#F, D"1&#.1+
5(33"1&#T)OT()/D;#(1/()"1&#"1/O#-O1/).-/5;#FO))OB"1&#: O1(D#LO)#."5"1&
: O1(D#FD#"55, "1&#FO1+5N;#(/-7#@' (D#.)#(35O9#)(#/#O#&(1O)./(#)!(1, (#
FD#5(33"1&#&O0+5#.1+#O!)!-(5;#-O: : ()-."3"d"1&#Y10B3(+&(#.1+##"1! (5/C
"1&7# [1"! ()5"/(5#.)#(&5/O)(+##-' .)"/(5;#.1+##/' (D#' .! (#/' (#.F"3"/D#O#
T)O!"(+O1O)5#B'/' #/.^#)(-("T/57

@BO#: .hO)#5O,-)(5#O9#"1-O: (#9O)#.33#4.1.+."1#, 1"! ()5"/(5#.)#(T)OC
!"1-.3#&O! ()1: (1/#&).1/5#.1+##, "/O1#9(5;#FO)' #O9#B'-' #.#.)#3.)&(3D#
-O1/O)33(+##FD#T)O!"1-.3#&O! ()1: (1/5#5"1-(#/' (#T)O!"1-(5#, 5. :33D#
)&.3./(#/' (#3(! (3#O9#9((5#90)#+O: (5"/-#5/, +(1/57#G"1-(#(.-' #T)O!"1-(#
+(/O: "1(5#/' (#3(! (3#O9#9"1.1-.3#5, TTO)/#'./#B"33F(#T)O!"1+##O#(.-' #
, 1"! ()5"/D;#.1+##/' ()(#.)#(.hO)#+"99C(1-(5#"1#/, "/O1#T03-D#FD#T)O! C
"1-(#/' (#5'.)(#O9#/O.3#, 1"! ()5"/D#)!(1, (#.550-."/(+#B'/' #/' (#5#/BO#
5O,-)(5#O9#"1-O: (#!.)"(5#FD#T)O!"1-(#.1+##FD#"15"/, "/O17#20)#(^.: T3;#
"1#<(B90, 1+3.1+##.1+##B.F.)+O)#B'-' #' #.5#/' (#30B(5#/#, "/O1#9((5#"1#
4.1.+.#15((#@.F3(O7R#;#/, "/O1#)(T)(5(1/(+O13D#6076#T)O#-(1/#O9#, 1"C
! ()5"/D#OT()./"1&#)!(1, (#"1#>J6>;#-O: T.)+/#O#RQ#T)O#-(1/#O9#OT()./"1&#
)!(1, (:#O1#.! O.).&(#;"1#_1/.)"O#, 1"! ()5"/(5#L4Z [@#>J6R#7

2O)#4.1.+.;#T)O!"1-.3#&).1/5#.1+##/).159()5#)(T)(5(1/(+##.TT)O^"C
: ./ (3D#R>#T)O#-(1/#O9#/O.3#, 1"! ()5"/D#)!(1, (#"1#>J66K>J6>;#3'O, &' #
&."1#/' ()(#B)O(#-O15#+).F3(#!.)"/O15#FD#T)O!"1-(7#A)O!"1-.3#
&).1/5#)(T)(5(1/#O1#.! O.).&(#;#??#T)O#-(1/#O9#/O.3#, 1"! ()5"/D#"1-O: (#
"1#<(B90, 1+3.1+;#R?#T)O#-(1/#"1#Z3F)O/;.#1+##O0#T)O#-(1/#"1#_1/.)"O#
L4Z [@#>J6R;#N#N#@' ()(#.)#(": TO)/.1/#+"99C(1-(5#FD#T)O!"1-(#"1#/' (#
)"/O#O9#/O.3#9, 1+"1	O)#(/)"/.)D#(+, -./"O1#.1+##T)O!"1-.3#P#UA#L@.F3(#
O7>N;#).1&"1)O: #>7O#T)O#-(1/#"1#Z3F)O/;#4.1.+.#15#)-' (5/#T)O!"1-(#
/O#R#T)O#-(1/#"1#<O!.#G-O"/.;#O1(#O9#4.1.+.#15#T0O)(5/#T)O!"1-(57

[1"! ()5"/D#)!(1, (#9)O: #/' (#9(+).3#&O! ()1: (1/#"5#T)": .)3D#
.550-."/(+#B'/' #)(5(.)-' #9, 1+"1&7# @' ()(#.)#(#/')((# :.hO)#&).1/"1&

66?# \$# P3(1#Z7#J01(5#.1+#4')"5"/.1#<0, : "

-0, 1-"35q/' (#G0-"3#G-"(1-(5#.1+#%, : .1"/(5#S(5(.)-' # 40, 1-"3#O9#
4.1.+.#LGG%S4N;#/' (#<./,).3#G-"(1-(5#.1+#*1&"1(O)"1&#S(5(.)-' #
40, 1-"3#L<G*S4N;#.1+#/' (#4.1.+.1#E15"/, / (5#O9#%(.3/' #S(5(.)-' #
L4E%SN7#@).159()5#9)O: #' (5(#')((#-0, 1-"35#)(T)(5(1/(+;#O1#.!)&(;#
.TT)0^": ./ (3D#?#T()#-(1/#O9#, 1!"()5"/D#)!(1, (#"1#>J66K>J6>7#@).159()5#
9)O: #.33#9(+).3#&O!()1: (1/#.&(1-"(5#.1+##(T.)/: (1/5# "1-3, +"1&#&).1/C
"1&#-0, 1-"35N#)(T)(5(1/(+#.FO, /#66#T()#-(1/#O9#/O/.3#, 1!"()5"/D#)!(1, (5#
"1#>J66K>J6>7#G"1-(#: , -' #O9#/' "5#9, 1+"1&#"5#-0: T(/"!"(;#/' ()(#.)(#
: .hO)#+"99() (1-(5#"1#/' (#: .&1"/, +(#O9#9(+).3#&O!()1: (1/#&).1/5#.1+#

*^"5"1&# +./.;# .3/' 0, &' #3": "/(+;#5' 0B#/' .#/' (# (^/(1/#09#5/, +(1/#
: 0F"3"/D#"5#: 0+(5/7#Z5#.3)(.+D#10/(+;#/' (#i, 3"/D#09#' '&' ()#(+, -./"01#
"5#!"(B(+#.5#F("1&#)(3./"!(3D#(!(1#. -)055#T)O!"1-(57#20)"#15/.1-(;# .33#
)(&"015#09#/' (#-0, 1/)D#' .!(#"15"/, /"015#01#/' (#8.-3(.1\5#, 1"! ()5"/D#
).1Y"1&5#L01(#09#/' (#: ."1#, 1"! ()5"/D#).1Y"1&5#"1#4.1.+.#N7#E15"/, /"015#
9)0: #5(!(1#T)O!"1-(5#.)#)(T)(5(1/(+#"1#/' (#/OT#6=#+0-/0).3#: (+"- .3#
, 1"! ()5"/(5#"1#4.1.+.;#B' "3(#5^#T)O!"1-(5# .!(#"15"/, /"015#"1#/' (#/OT#
6=#-0: T)(' (15"!(#, 1"! ()5"/(5#).1Y"1&7#@' (#3.-Y#09#-3(.)"#15"/, /"01.3#
' "().)-' "(5#0)#5/./"9"-./"01#: (.15#/' .#/' (#! .5/#: .h0)"D#09#5/, +(1/5#
-' 005(#/0# ./(1+#.#, 1"! ()5"/D#-305(#/0#/' (#' 0: (#09#/' (")#T.) (1/57#E1#
.++"/"01;#"1#/' (#: .h0)"D#09#T)O!"1-(5;#, 1"! ()5"/DCFO, 1+#5/, +(1/5#-.1#
5/, +D#: 05/#09#/' (#/).+/"01.3#T)O&).: (5#L(7&7;#: (+"-1(;#+(1/"5)D;#
3.B#.1+# (1&"1(O)"1&N# B'/' 0, /#3(!"1&#/' (")#' 0: (#T)O!"1-(7#@')(#
.)(#9(B#(^-(T/"015;#5, -' #.5#/' (#8.)"/": (#)(&"01;#B')(#/' (#9.-, 3/D#09#
: (+"-1(#./#J.3' 0, 5"#[1"! ()5"/D;#B'/' #/B0#-.: T, 5(5#"1#<0! .#G-0"/. #
.1+#<(B#`), 15B"-Y;#5()!(5#/')(#T)O!"1-(5#/')0, &' #.99"3"/"015#B'/' #

660# \$# P3(1#Z7#)01(5#.1+#4')"5".1#<0, : "

@' (#&(1().3#T.//()1#09#(+, -./'"01.3#: "&)./'"01#.TT(.).5#/0#F("#193, C
(1-(+#FD#&(0&).T' D#.1+#-, 3/,).3K3"1&, "5/"-#9.-/0)57#G ' "3(#T)0!"1-(5#
5, -' #.5#Z3F()/.#.1+#G.5Y./-' (B.1#' .!(#F((1#.F3(#/0#.//).-/#B0)Y()5#
9)0: #.-)055#/' (#-0, 1/)D#.1+#F(D01+;#/' (#9.!0,).F3(#h0F#: .)Y(/#' .5#
10/#/,)1(+#0, /#/0#F(#.#T, 33#/0#5"&1"9"- .1/3D#.//).-/# ____A#5/, +(1/57#
@' (#)(&"01#B')(#(+, -./'"01.3#: "&)./'"01#"5#: 0)(#-0: : 01#"5#Z/3.1/"-#
4.1.+.;#B')(#T)0!"1-(5#.)(#)(3./!(3D#5: .33#"1#5"d(#.1+#-305()#/0#(-' #
0/')#/' .1#/' (#)(5/#09#/' (#-0, 1/)D7#*+, -./'"01.3#: "&)./'"01#.350#.TT(.).5#
/0#90330B#/' (#3"1&, "5/"-#3"1(7#E/#: 05/3D#' .TT(15#F(/B((1#Z1&30T' 01(#
T)0!"1-(5;#F(-, 5(#/' (D#5' .)(#/' (#5.: (#3.1&, .&(#.1+#' .!(#5": "3.)# "&')#

5/, +D7#` (/B((1#6HHH#.1+#>JH;#/' (#1, : F()#09#5/, +(1/5#9)0: #<0! .#
G-0/" .#"1-)(.5(+FD#6;JH#T()#-(1/#L] ")FD#(/#.37#>J66N7#U,) "1&#/' (#5.: (#
T)"0+;#.! () .&(#/, "/"01#"1-)(.5(+FD#171#T()#-(1/"1#<0! .#G-0/" .;#F, /#
+)OTT(+#"1#<(B90, 1+3.1+#FD#017R#T()#-(1/#L] ")FD#(/#.37#>J66N7#@' (#
/, "/"01#+ "99)(1/" .3#B/' #<0! .#G-0/" .#. : 0, 1/5#/0#e0;JJJ#"1#9.!0,)#09#
<(B90, 1+3.1+7# 80)(#)(- (1/3D;#/' (#T)0! "1-(#' .5#5((1# .#5, F5/.1/" .3#
"1-)(.5(#"1#5/, +(1/5#9)0: #0/' ()#T)0! "1-(57#Z/# 8(: 0)" .3# [1"! ()5"/D;#

6>># \$# P3(1#Z7#J01(5#.1+#4')"5".1#<0. : "

"15"/, /"O15;#9, 1+"1&#.) .1&(: (1/5;#.-.0, 1/.F"3"/D#: (-' .1"5: 5#. 1+##/, "C
/"O1#9((#TO3"- (57#Z3#O9##' (#T)O!"1-(5# .!(#)(3./!"(3D# '&' #3!(35#O9#.- (55#
/O#TO5/5(-O1+.)D#(+, -. /"O1;#F, /#/' ()(#.)(#!.)". /"O15;#. 1+#&!"(1#/' (#5"d(#
O9#5O: (#T)O!"1-(5;#)(&"O1. 3#+ "99O(1-(5#B"/' "1#T)O!"1-(57

g ' "3(#/' (#P0! ()1: (1/#O9#4. 1.+.#" .5#.#i, "/(#3": "/(+90): .3#-O1C
5"/, /"O1. 3#)O3(#"1# '&' ()#(+, -. /"O1;#/' (#9(+O). 3#&O! ()1: (1/#' .5#5/. Y(+
O, /#TO3"-D#/(/))/O)D#"1#.#1, : F()#O9#": TO)/. 1/#.) (.5;#"1-3, +"1&#)(5(-)' #
. 1+#"110! /"O1;#5/, +(1/#9"1. 1-" .3# .55"5/. 1-(;#/' (#(+, -. /"O1#O9#4. 1.+ .\5#
.FO)"&"1. 3#TOT, 3. /"O15#. 1+#"1/O)1. /"O1. 3"d. /"O17#@' (#9(+O). 3#&O! ()1: (1/#
' .5#F(-O: (#FD#9.)#/' (#3.)&(5/#9, 1+#T)O!" +()#O9#, 1"! ()5"/D#)(5(-)' #"1#
4. 1.+.;#. 1+#9(+O). 3#)(5(-)' #"1"/. /"! (5#-3(.)3D#'. !!(# .1#": T. -/#O1#/' (#
)5(-)' #. -/"! /" (5#O9#4. 1.+." .1# , 1"! ()5"/" (57

A() .T5#/' (#&)(./5/#. 1+#: O5/#OF!"O, 5#+ "5. +! .1/. &(#O9#/' (#+"! "5"O1#
O9#)(5TO15"F"3"/" (5#/' ./#' .!(#(: ()&(+##F (/B((1#/' (#/BO#3(! (35#O9#&O! ()1C
: (1/#"5#/' (#/)(: (1+O, 5#-' .33(1&(#O9#1. /"O1. 3#TO3"-D#-OO)+ "1. /"O17#@' (#
T)O!"1-" .3#&O! ()1: (1/5#! .3, (#/' (")#"1+(T(1+(1-(# .1+#' .!(#9#)- (3D#T)OC
/(-/(+##/' (")#-O15"/, /"O1. 3#)O3(#"1#TO5/5(-O1+.)D#(+, -. /"O1# .1+#)(5"5/(+
9(+O). 3#1/O)9O(1-(7#g ' "3(#/' (#4 8 * 4#T)O!" + (5#.#9O), : #9O)#"19O): . /"O1#
5'.)"1&#;#/' ()(#' .5#F((1#3"//3(#"1/O)(5/#"1#+ (! (3OT"1&#T. 1C4. 1.+." .1#TO3"-D#
"1"/. /"! (5#O)# .# 1. /"O1. 3#5/). /(&D7#@' (# .F5(1-(#O9#5/O)1&#: (-' .1"5: 5#
9O)#9(+O). 3CT)O!"1-" .3# -OO)+ "1. /"O1#": (. 1#/' ./#9(+O). 3. //4 (O)4((.)421#(#(.)43)4

T)O!"1-(57#A03"-D#F0))OB"1&#"5#10/#, 1-0: : 017#_1(#-0, 3+#.350#.)&, (#
/' ./#+(- (1/).3"d./"01#' .5#.350#' .+.#.#: 0+()./"1&#"193, (1-(#01#)(90): V#/' (#
.F5(1-(#O9#1./"01.3#T03"-D#' .5#.350#T)!(1/(+#3.)&(C5-.3(#1./"01.3#)(90): 5;#
.1+#T)O!"1-(5#: .D#F(#)(3, -/1/#/O#, 1+()/Y(#)(90): 5#/' ./#: "&' /#F(#T00)3D#
)(-("!(+#FD#O/')#h, "5+"-/O157#@' (#(1+#)(5, 3/;.9/()#.33;#"5#. #-033(-/"01#
O9#+*99() (1/#F, /#' "&' #.--(55#T)O!"1-"3#5D5/(: 5#O9#" "&')#(+, -./"01#/' ./#
T)O!" +(#.#i , .3"/D#O9#(+, -./"01#/' ./#"5#B(33C)(5T(-/(+#FD#O/')#h, "5+"-/O1;#
.1+#"1-3, +(5#. #1, : F()#O9#"1/Q)1./"01.33D#)(-0&1"d(+#)(5(.)-' #, 1"! ()5"'"(57

Z 4 4 4 7#>J667#R*5%0)*51-2<J/5%&/F+.<.)7+%&5*J/F5<8X5J.K(R8)/G+2)/+0/ M5%5&-5%/
M+2)3)./5%&/L%.<<\$>.7#_//.B.;#_1/.)"Oa#Z 4 4 4 7
Z[4 4 7#>J667#R*)%&./-%/B-38)*/= &\$75<+%/_g+2a/VK/=+%*+2,)%-7#_//.B.a#Z[4 4 7
` 4#%(.+5(7#>J6R7#n`)/"5' #403, : F".#%"&' ()#*+, -./"01#Z--0, 1/.F"3"/D#U./5(Λ7#

6>R# #P3(1#Z#j01(5#.1+#4')"5".1#<0, : "

%)")5;#S7#6HI ??# ; /B-.<+*/+0/B-38)*=&\$75<+%/-%/ M5%5&K/VddefVZdU#0@)01/0a#
[1"! ()5"/D#0#0@)01/0#A) (557

%(/. /# <#>J6>#nG/, +(1/# 80F"3"/D# "1# 4.1.+.a# Z-)055# 4.1.+.1# j,)"5+ "-/0157#
>JJ1WJQK>JHHW6J#7# -78+25./B)5-8/M+%. \$2<-%3/?)*@7. /L%7#Z! . '3. F3(#.# /# //T#WW
BBB67, B"1+50)7-. WT--. /W5D5/(: W9"3(5WA44Z@v: . "1)(T0)/v9"1.3C* <M>J
2, 33M>JUO- : (1/M>JB"/' M>J30&057T+9

%*F 4_#>J607#n_1/.)"0#A05/5(-01+.)D# *+, -. /"01#GD5/(: #A)90) : .1-(7#0@' (#
'%&' ()#*+, -. /"01#F , .3"/D#40, 1-"3#0#_1/.)"07#0@)01/0;#_1/.)"07

j01(5;#P7#Z7#6HH?7#nPO! ()1: (1/5;#PO! ()1.1-(# .1+#4.1.+.1# [1"! ()5"/" (57#E1#
B-38)*/'=&\$75<+%/B5%&I++D/+0/R8)+*J/5%&/G).5"78;#X037#uE;#(+)/(+#FD#j7#47#
G: .) /#001K016#<(B#c0)Y;#<c#Z&.' 01#A) (557

q q q q 7#(+7#6HH1#B-38)*/'=&\$75<+%/-%/ M5%5&K/(-00)%"<?J.<), . /: (-00)%"<F").4)7<@).a#
<(B#c0)Y;#<c#P.)3. 1+7

q q q q 7#>J>7#n@' (#G/), -/)(#0# [1"! ()5"/D#PO! ()1.1-(# "1# 4.1.+.a# Z#A03'-D#
<(/B0)Y#ZTT)0.- ' \#E1#A+@)*%-%3/B-38)*/'=&\$75<+%/> 5<+52/F)*.4)7<@). /+%/

L%<.<\$<+52/A+@)*%5%)#(+)/(+#FD#Z3F)0/#Z: .) .3;#P3(1#Z#j01(5;#.1+#`)/#
] .)5(/' ;#>60K>0R7#UO)+(-' /#0@' (#<(/' ()3.1+5a#] 3, B)0#Z-. +(: "-#A, F3"5' ()57

q q q q 7#>JH7#nG(-/0)5;#E15"/, /"01.3#0DT(5;#.1+#' (#4' .3(1&(5#09#G: "9"/18#4./(&0)"(5a#
Z#4.1.+.1#40: : (1./)D7#B-38)*/'=&\$75<+%/O\$5'<2)J#?0#R1a#016K0Q07

q q q q 7#>J6R7#nZ1#E1)0+, -/01# /0#%'&' ()# *+, -. /"01#"1# 4.1.+.7#E1#B-38)*/
=&\$75<+%/; 7+. /> 5<+%;#X037#6;#(+)/(+#FD#j7#87#j05' "#.1+#G7#A. "1.1+#6K0Q7#
U(3' "a#` 7#S7#A, F3"5' "1#40)T0). /"017

j01(5;#P7#Z7;#P0T. , 3;# 7;#g ("1)"F;#j7;#8 (/-.39(:#Z7#G7;#2"5')#;U7;#P"1&).5;#C7;#.1+#
S, F(1501;#] 7#>J6R7#n@(-. "1&#S(5(.)-' #.1+#' (#4.1.+.1#A)09(550). /(\#E1#
R)578-%3/5%&/G).5"78/-%/M+%;<), 4+"5"J/B-38)*/'=&\$75<+%/K/?J.<), . /; 7<@<@). /5%&/

G)X5"&.#(+)/(+#FD#Z7#Z): 0/0;#g 7] 7#4, : : "1&5;#j7#47#G" "1;#.1+# [7#@("'- 3) ;#
00=K0=?#UO)+(-' /#0@' (#<(/' ()3.1+5a#GT)"1&()7

j01(5;#P7#Z7;#.1+#_3(Y5"D(1Y0;#Z7#>J667#n@' (#E1/()1.1"01.3"d. /"01#09#4.1.+.1#
[1"! ()5"/D#S(5(.)-' a#Z#P30F.3#%'&' ()# *+, -. /"01#8. /)"^#Z1.3D5"5#09#8, 3"/C
3(1 (#P0! ()1.1-(7#B-38)*/'=&\$75<+%/#?6#L61a#R6K=17

j01(5;#P7#Z7;#.1+#g ("1)"F;#j7#>J667#nP30F.3"d. /"01# .1+#%'&' ()# *+, -. /"01#"1#
4.1.+.7#E1#B5%&I++D/+%/A2+152-E5<+%/5%&/B-38)*/'=&\$75<+%;#(+)/(+#FD#S0&()#
] "1&#G: 01#8.)&"1501;#.1+#S.h.1#"<.+00;#>>>K>RJ7#4' (3/(1' .: ;# [] a#
*+B.)+*3&.)#A, F3"5' "1&7

q q q q 7#>J6>7#n@' (#_&)"1.d."01#09#Z-. +(: "-g0)Y# .1+#/' (#S(: , 1). /"01#09#
2.-, 3/D#./#4.1.+.1# [1"! ()5"/" (57#E1#F5J-%3/8)/F*+).+*5-)<K/; /A2+152/M+, 45"-+%/
+0/M+, 4)%5<+%/5%&/M+%;<5<;#(+)/(+#FD#A7Z3/F.-' ;#b7#S("5F)0W#C. Y(!"-';#
P7#Z1+)0, 5'-' .Y;#.1+#E7#27#A.-' (-0;#Q0KH07#<(B#c0)Y;#<c#S0, /3(+&(7

Z, 5/).3".# \$# 6>1

T0B()q "1#/' (#3.5/#?J#D(.).5#"1# " '&' ()#(+, -./"01;#/' (#1./"01.3#&0! ()1C
: (1/#' .5#F(-0: (#0! ()B' (3: "1&3D#+0: "1.1/#"1#(-' #09#T03"-D;#9, 1+"1&#
.1+#)(&, 3./"017#%" '&' ()#(+, -./"01#5#: 0)(#, 1"/.)D#/' .1#"1#9(+().3#5D5/(: 5#

6>Q# \$# G": 01#8.)&"1501

@' (#) (5, 3/#5#. #9(+). 3#5D5/(: #B"/' #: 0)(#/' . 1#01(#T055"F3(#0, /-0: (#
"1#/' (#50-. 3#5(-/0)57#GO: (#5./(<#9, 1-/"015# . ! (#F(-0: (#1./"01. 3#B' "3(#
0/')5;# B"/' #5": "3.)#3(&. 3#5/./, 5;# ' . ! (#10/7# G-' 003"1&# . 1+# /(-' 1"C
-. 3K! 0-./"01. 3#(+, -./"01#)(: ."1#T)": .)"3D#5/./(#)(5T015"F3"/" (5;#. 5#+0#
' (.3/' ;# ' 05T"/. 35#. 1+# ' 0, 5"1&#F, /# 10/#50-. 3# B(39.)(#T.D: (1/5# . 1+#
5/, +(1/#F(1(9"/57#U(&)((C3!(3# "&')#(+, -./"01;#. 1+#)(5(.)-' ;#: 0! (+#
9)0: #/' (#5./(<5#0#/' (#1./"01. 3#5T')(#F(-., 5(#B' "3(#/' (#3(&. 3#F. 5"5#90)#
1./"01. 3#"1/()! (1/"01#"1# " &')#(+, -./"01#B. 5#B(.Y;#9)0: #/' (#6H=J5#
' (#, 1"!)5"/" (5;#. 1+#3./()#0/')#+(&)((C&). 1/"1&#"15"/, /"015;#F(-.: (#.#
: .//()#09#1./"01. 3#T03"/"- .3#T)"0)/D7

@' (#/. ^"1&#T0B()#B. 5#. 1+#"1&#' (#

09#9(+()./"01#.)(&#. "1"1&#&)0, 1+#"1#T.)5#09#/' (#B0)3+;#9. -"3"/./(+#FD#
(! O3! "1&#-0: : , 1"-./"O15#5D5/(: 5;#/' (5(#TO55"F"3"/" (5#.))(#).37

G(-01+;#F(-., 5(#, 1"!)5"/" (5#-01/"1, (#/O#F(#&O!)1(+#FD#5/./ (CF.5(+
Z-/5#09#A.)3".: (1/#. 1+#.)(#: TO)/. 1/#T3.D()5#1#5/./ (#. 1+#) (&"01.3#(-01C
O: "(5;#/' (#5/./ (5#50: (/": (5#"1/()! (1#"1#!.)"O, 5#.) (.57#@' (")#3": "/(+
/ . ^"1&#TOB()5#T)(-3, +(#/' (#3.)&(C5-. 3(#9, 1+"1	#5/, +(1/#T3. -(5;#F, /#
/' "5#+O(5#1O/#F3O-Y#/' (#TO/(1/" .3#9O)#5(3(-/"! (#"1! (5/: (1/5#"1#) (5(.)-' 7#
E1#/' (#) (- (1/#T.5;/#50: (#5/./ (5#9. -"3"/./ (+#1 (B#T)"! ./ (#, 1"!)5"/" (57#@' (#
5/./ (5# .35O#) (/ . "1#.#90): .3#) (5TO15"F"3"/D#9O)#, 1"!)5"/D#&O!)1.1-(;# .1+#
/' (D# .99(-/# " &')#(+, -./"O1#/')O, &' #/' (#) (&, 3./"O1#09#3. 1+#, 5(;#). 15C
TO)/;# : , 1"-T.3#5()!"-(5;#) (&"01.3#+(! (3OT: (1;/#TO3"- "1&# .1+#T, F3"-#
5.9(/D;# .1+#/' (")#-. T. -"/D#O# .99(-/#/' (#) (3./"O15' "TF(/B((1#5-' 0035# .1+#
, 1"!)5"/" (5;#90)# (^ .: T3(;#"1#5/, +(1/#5(3(-/"O17

@' ")+;#/' (#5/./ (5# T3.D#/' (# : ."1#&O!)1: (1/.3#)O3(#"1#XO-./"01.3#
+, -./"O1# .1+#@). "1"1&# LX @N;# .#3.)& (# TO5/C5-' 003#5(-/O)# B"/' #
607=#

60J# \$G": 01#8.)&'1501

[1"/(+ #] "1&+0: #30-./"1&#: 05/#+ (&)((#3(! (3#T)0! "5"01#1#)(5(.)-' #, 1"C
! ()5"/(5#Z&. "1; #.5#1#/' (#)"/"5' 卅,) "5+ -/"01;#/' ()(#5#. #5'.)T#!.)."/"01#
F(/B((1#+(5"&1./(+ #)(5(.)-' #15"/, /"015#1#/' (#"1/(15"/D#09#)(5(.)-' 7#
@' (#3.5/#9(B#, 1"! ()5"/(5#01#1/' (#T, F3"-#5-' (+, 3(#' .!(#9(B#9, 1+(+ #
)5(.)-' #T)0h(-/5# LZ, 5/).3". 1# U(T.)/: (1#09#*+, -./"01#>J6=N7#@' (#
T)!"./(#5(-/0)#T3.D5#. #: "10)#03(#"1#)(5(.)-' 7#_1#/' (#B' 03;# '0B(!) ;#
/' (#)(5(.)-' #)03(#"5#T)(. +#: 0)(#! (13D#1#Z, 5/).3". #/' .1#1#/' (#[1"/(+ #
] "1&+0: 7#@' (#: "++3(#3.D()#09#, 1"! ()5"/(5# ' .5#5"&1"9"- .1#B("&' /

Z, 5/).3". #. 5#10#)(5(.)-' #, 1"! ()5"/(5#1#1/' (#B0)3+##0T#0J#90)#(5(.)-' #
T()90): .1-(#F, /##/' ()(#.)(#>0#"15"/, /"015#1#/' (#G'. 1&' ."#Z-. +(: "- #
S.1Y"1	#G)3+#[1"! ()5"/(5#/OT#=#JJ;# .33#F, /#B0#T05"/"01(+#"1#/' (#
/OT#RJJ;#5()!"-"1&#. #TOT, 3./"01#09#>R76#: "33"01#T(OT3(#>J6?N;#01(#/OT#
=JJ#, 1"! ()5"/D#90#)(!)D#: "33"01#T(OT3(7#@' "5#-0: T.) (5#B"/' #60=#/OT#
=JJ#, 1"! ()5"/(5#1#1/' (#[1"/(+ #G./ (5#B"/' #0>076#: "33"01#T(OT3;# .1+#0Q#
"1#/' (#[1"/(+ #] "1&+0: #B"/' #?=7?#: "33"01#LZSg [#>J61V#g 0)3+` .1Y#
>J61N#Z, 5/).3". 15#)(3./! (3D#F)0. +#5T)(. +#09#)(5(.)-' #, 1"! ()5"/D#-. T. -"/D#
.1+#)(T, /./"01#5#. 1#0, /-0: (#09#/' (#-015"5/(1/#. TT3"-./"01#5"1-(#/' (#
6H?J5#09# ' 0: 0&(1"d"1./"01.3#5D5/(: #/(: T3./ (5;#+(5T"/(#/' (#5/)01&#
T03"-D#.+ ' ()(1-/#0#: .)Y(/#-0: T(/"01;#B' "- ' #10): .33D#+#99)(1"/.(5#
-.T.-"/D#0! ()#": (#"1#)(3./"01#0#<0)/' #Z: ()-.;#5((#U.!"(5#. 1+#Z.)"9.#
>J6>N7#@' (#0, /-0: (#"1#Z, 5/).3". #5#. 350#+(5-)"F(+#3(55#Y"1+3D#. 5#. #F3. 1+#
n! .1"33.#5D5/(: #09# '&' ()(#+, -./"01#1#B' "- ' #: "55"01#+!" ()5"/D#'. 5#F((1#
3.)&(3D#)01(+ #0, /#L8.)&'1501#. 1+#8.)5' : .1#>J60;#10N7

20330B"1&#/' (#"1/)0+, -/"01;#/' (#5(-01+#5(-/"01#(^T.1+5#01#Z, 5/).3". ;#
/' (#Z, 5/).3". 1#G./.(5#. 1+#@())"0)"(5;. 1+#' "&' ()(#+, -./"017#@' (#/' ")#
.1+#90,)/' #5(-/"015#). -(#/' (#(! 03, /"01#09#Z, 5/).3". 1#9(+).3"5: #. 1+#/' (#

, 1"! ()5"/D#Lg 4 [N#: 0! (: (1/7#@' (#-01-3, 5"01;#/' (#5(! (1/' #5(-/'01;#
5, : : .)"d(5#/' (#": T3-.'/'015#09#9(+(). 3"5: #90)#-0)(#.5T(-/5#09#5D5/(: #
+(5"&1#5, -' #. 5#' 0: O&(1("DW' (/()O&(1("/DW#T)"!./"d./"01;# : .)Y("d.C
/'01;#-0: T("/"01V#. 1+#, 1"! ()5"/D#. , /010: D#. 1+#. --0, 1/. F"3"/D7#E/#. 350#
)93(-/5#01#T055"F3(#9, /,))(#+(! (30T: (1/57

@' (#1./"01#Z, 5/).3".#0-- , T"(5#. 1#"53. 1+#-01/"1(1#"1#/' (#GO, /' B(5/#
09#/' (#A. -"9-;#30-./(+#099#/' (#GO, /' C(.5/())1#(1+#09#Z5". ;#B/' #. 1#.) (.#
09#171#: "3"01#5i , .)(#Y"30: (/)(5:#10/#: , -' #5: .33()#/' . 1#/' (# [1"/(+
G./.(57#@' (#"11()#T.)/#09#/' (#-01/"1(1/"5#.)"+#. 1+#/' (#TOT, 3./"01;#5T.)5(#
)3./"! (#/0#3. 1+#.) (.:#"5#-01-(1/)./(+#"1#.#5: .33#1, : F()#09#-"(5#01#
/' (#A. -"9-;#GO, /' (.5/#. 1+#GO, /' B(5/#-0. 5/57#GD+1(D;#8(3FO,)1(#. 1+#
`)"5F. 1(# 0, 5(#. 39#/' (#1./"01#F(/B((1#/' (: 7#U"5/. 1-(#"5#. #5"&1"9-. 1/#
9.-/0)#"1#5(!)"-(#T)0!"5"01;#(5T(-. 33D#"1# F , ((153. 1+#. 1+#G (5/())1#
Z, 5/).3".#7#805#/#/)#.)D#(+, -./"01#0, /5"+(#/' (#: .h0)#-"/"(5#"5#FD#): 0/(#
+(3"! ()D#0)#"1#5: .33#X*#@#"15"/, /"0157

60># \$G": 01#8.)&"1501

"1-0: "1/, +(1/5#)0: #Z5".: #5T(-. 33D#4' "1.7#E1+"#. 1+#4' "1.#.)(#/B0#
09#/' (#/)((#3.)&(5/#50,)-(5#09#: "&). 1/57#G, --(55"! (#B.! (5#09#: "&)./"01#
' ! (#. 350#905/() (+#5, FTOT, 3./"015#9)0: #GO, /' ()1#. 1+#* .5/()1#*,)OT(;
@,)Y(D#. 1+#b(F. 101;#. 1+#X"/1.: 7# 8"&)./"01#9)0: #/' (# [1"/(+
] "1&+0: #. 1+#E)(3. 1+#-01/"1, (5#/0#F(#5"&1"9"- .1/7

Z, 5/).3".#)(/."15#/' (#`)"5' #: 01.)-' #.5#/' (#10: "1.3#' (.+#09#5/./(:#
.1+#/5#93.-3, +(5#/' (#: T()".3#`)"5' #(15"&17#Z3' 0, &' #Z, 5/).3".# .5#
F((1#9, 33D#1+(T(1+(1/"1#90)("&1#T03"-D#5"1-(#g 0)3+#g .)#EE#. 1+#/')(#
"5#10#301&()#: T()".3#T)(9)(1-(#"1#/.). +(#0)#: "&)./"01#/'/#-01/"1, (5#/0#
F(#T.//()1(+FD#`)"5' #10): 5#"1#&0! ()1: (1/#. 1+#T03"-D;#F, 5"1(55;#
' (#T)09(55"015;# "&')#(+, -./"01#. 1+#5-(1-(q B' "3(#. 350#193, (1-(+
FD#/' (# [1"/(+G/./ (5;#3"Y(#. 33#*1&3"5' C5T(.Y"1./"0157#@' (#1((+#/0#
+(9"1(#. 1+#5, 5/."1#Z, 5/).3".# .5#.#`)"5' C' ()"/.&(#1./"01#01#/' (#(+&(#09#
Z5".;#. 1+#/' (1#/0#: .1.&(#. 1#"1-)(.5"1&3D# DF)"+#1./"01#01#/' (#*,)OT(W
Z5".#F0)+)#09#"+(1"/D;#'. 5#. +! .1-(+##/' (#)03(#09#1./"01.3#&0! ()1: (1/#
B"/' "1#/' (#9(+)./"017#@' (#1((+#/0#+(! (30T#Z, 5/).3".\5#! .5/#"1/()3. 1+q #

4.1 Australian States and Territories: Land, History and 2014 Population and Economy

| State/Territory | Population (M) | Area (M km ²) | Population Density (per km ²) | GDP (\$ AU) | Per Capita GDP (\$ AU) | Year of self-governing |
|--------------------------|----------------|---------------------------|---|-------------|------------------------|--|
| New South Wales (Sydney) | 7.439 | 0.800 | 9.29 | 506,918 | 49,026 | British colony 1788, self-governing 1854 |
| Victoria (Melbourne) | 0.800 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |



8. 1, 9. -, /) "1&#B# "- ' #5#-01-(1/)./(+##1#X"-/0)". :#5/), &&3(5#B. &(5#.) (#
)(3./!"(3D# " &' ;# . 1+#Z, 5/). 3".#(1hOD5#+(5"&1#. 1+#T)0+, -/"!"/D# . +! . 1/. &(5#
 "1# . #1.)0B#). 1&(#09#5(-/0)57#@' (# : 05/#TOT, 30, 5#5/. / (5# < (B#GO, /' #
 g . 3(5# . 1+#X"-/0)". :# ' ! (#5/)01(!)"-(5;#1-3, +"1&# " &')#(+, -. /"017#
 f , ((153. 1+5# , 1!")5"/"5# ' ! (#& . "1(+&#)0, 1+#"1#/' (#3. 5/#/BO#++(-. +(57#
 4. 1F()). ;# +0: "1. /(+##FD#/' (#T)(5(1-(#09#/' (#1./"01. 3#&0! ()1: (1;/#5#.#
 5()!"-(5#-"/D#3(+##FD#T)09(55"01. 3#(: T3OD: (1/#B'/' # " &' # . ! () .)&(#(.)1C
 "1&57#@. 5: . 1".# . 5#TO-Y(/5#09#FO, /"i , (# " &' #! . 3, (# . &)"-, 3/.)(#. 1+#3"Y(#
 : 05/#5/. / (5;# . #5/)01&#/#,)"5/#"1+, 5/)D;#F, /#"5#/' (#T00)(5/#5/. / (#"1#1-0: (#
 T)0# ' (. +##B'/' # . #1.)0B#). 1&(#09#0F#OTTO)/, 1"/"(57#@' (5(#+#99() (1-(5;#
 /' (#+(: 0&). T' "-5q ' " &' #: " &)."01#5/. / (5# ' ! (#30B()# . ! () .)&(#"1-0: (5;#
 B' "- ' # . 99(-/5#X"-/0)". c . 1+#5-. 3(#9. -/0)5;#.) (# . 550-" . /(+##B'/' # (T"50+ "-
 ! .)"015#F(/B((1#/' (#5/. / (5#1# . ! () .)&(#"1-0: (5# . 1+#, 1(: T3OD: (1/7#
 E1#_ -/OF()#>J6=#/' (# , 1(: T3OD: (1/#). / (#). 1&(+#9)0: #I7=#T()#-(1/#"1#
 GO, /' #Z, 5/). 3".#0#R7=#T()#-(1/#"1#/' (#<0/)' ()1#@())"0)D#LZ` G#>J6=N7

A03"/"- . 3#(-010: "-#+"99() (1-(5#F(/B((1#/' (#5/. / (5# ' ! (#+": "1"5' (+#
 5"1-(#9(+). /"01#"1#6HJ67#@' (#/BO#3.)&(5/#5/. / (5#"1#.) (. :#f , ((153. 1+#
 . 1+#g (5/)01#Z, 5/). 3".#/' (1#: , -' #3(55# ,)F. 1"d(+#. 1+#+(! (30T(+##/ . 1#
 < (B#GO, /' #g . 3(5# . 1+#X"-/0)". :#B() (#F)0, &' /# , T#/0#/' (#1./"01. 3#
 . ! () .)&(#"1#5()!"-(#T)0!"5"01#/')0, &' #9"5-. 3#(i , . 3"d./"01#T03"- (5#"1#/' (#
 +"5)"F, /"01#09#1./"01. 3#/. ^./"01#)!"(1, (57#@' (D# . 350#F(1(9"/(+9)0: #
 : "1(). 3# . 1+#(1)&D#(50,)-(5;#(5T(-. 33D#g (5/)01#Z, 5/). 3".#;#B' "- ' #01#
 . #T()#-. T"/. #F. 5"5#5#10B#B(. 3/' ")#/' . 1# . 33#F, /#/' (#/BO#/)"/0)"(57#@' (#
 ,)F. 1#T)("-1-/5# . 1+#5()!"-(#T)09"3(5#09# . 33#5/. / (#-. T"/. 3#-"/(5#.) (#10B#
 F)0. +3D#5": . 3.)7#%0B(!)#/' (#"1+"&(10, 5#TOT, 3./"01;#.)&(3D#-01-(1C
 /). /(+##"1#g (5/)01#Z, 5/). 3".#;#f , ((153. 1+#. 1+#/' (#<0/)' ()1#@())"0)D#;
 "5#B(33#F(30B#/' (#10): #"1#"1-0: (#T)0# ' (. +##T)09(55"01. 3#(: T3OD: (1/#
). / (5;# ' (3/' #"1+"-. /0)5# . 1+#(+, -./"01. 3# . // . "1: (1/7#@' (#T)0!"5"01#09#
 . --(55#90)#"1+"&(10, 5#5/, +(1/5# ' . 5#F(-0: (# . #5&1"9"- . 1/#1./"01. 3#T03"-D#
)(5T015"F"3"/D#09# " &')#(+, -. /"01#15"/, /"015#1#/' 05(#5/. / (5W/)"/0)"(57

Z, 5/).3".# \$# 601

600# \$#G": 01#8.)&"1501

Z, 5/).3".1#, 1"! ()5"/" (5# .)(#5": "3.)#/0# `)"/5' #, 1"! ()5"/" (5#"1#/' (")#

Z, 5/).3".# \$# 60H

"/#"1#T.).33(3#B"/' #' '&' ()#(+, -./"01;#/' 0, &' #50: (#5/./ (5#.1+#"1+, 5/)D#

6RJ# \$#G": 01#8.)&*1501

Z33# -' .1&(+#"1#g 0)3+#g.)#EE7#@' (#1./"01.3#&0! ()1: (1/#.&."1#

Z, 5/).3".# \$# 6R6

X()/"- .3#9"5-.3#": F.3. 1-(#"5#: 0)(#+ "99"- , 3/#/O#. ++)(557#E/#O-- ,)5#B' (1#

9(+().3"5: #B' "-' # .5#F((1#+(5-)F(+.#.5#n)(&, 3./O)D#9(+().3"5: \7#<./"O1.3#
&O!()1: (1/#)(&, 3./(+##/' (#5.//(5#O1#. #5/. 1+.)+"d(+##F.5"5##/')O, &' #-O1C
/).-/#.1+#-O15(1/;#)(i, ") "1&#/' (#5.//(5#"1#/,)1#/O#)(&, 3./(#/' (: 5(3! (5#
.-O)+ "1&#/#O<(B#A, F3"-#8.1.&(: (1/#T)(-(T/5#5, -' #.5#-O: T(/"/"O1#;
T()90): .1-(#)(&': (5# .1+#O, /T, /#F, +&(/"1&7#@' (#.)-' (/DT.3#T03"-D#
B.5#/' (#"1/()&O!()1: (1/.3#.&)((: (1/#O1#<./"O1.3# 4O: T(/"/"O1#
A03"-D#B' "-' #OF3'&(+##/' (#5.//(5#/O# .+OT/#.#-O: : O1#/(: T3./(#90)#
: "-)O(-O10: "-#)(90): ;#"1-3, +"1&#-O1/(5/.F3(#OT(1#: .)Y(/5#"1#: .1D#
5()!"-(#.)(.5;#"1-3, +"1&#X* @7#@' (#5.//(5#)(5(: F3(+##)(&, 3./(+#. &(1-(5#
OT)./"1&#;#B"/' #!.)D"1&#+(&)(5#09#-033.FO)./"O1#O)#9)-/"O1;#B/' "1#

6RR# \$G": 01#8.)&"1501

) (90): 5#"1#60#-0, 1/) (5;#"1-3, +"1&#/' (#[1"/(+##] "1&+0: ;#4.1.+.#.1+#
: 05/#09#/' (#g (5/()1#*,)OT(;#5/./(+##/' ./#"1#/' (#6HHJ5#Z, 5/).3".#B(1/#
9,)' ()#/' .1#.1D#0/' ()#-0, 1/)D#n"1#/' (#": T3(: (1./"01#09#<(B#A, F3"-#
8.1.&(: (1/#)(90): 5\L_* 4U#>J6>#66N7

Z, 5/).3".

6R?# \$G": 01#8.)&"1501

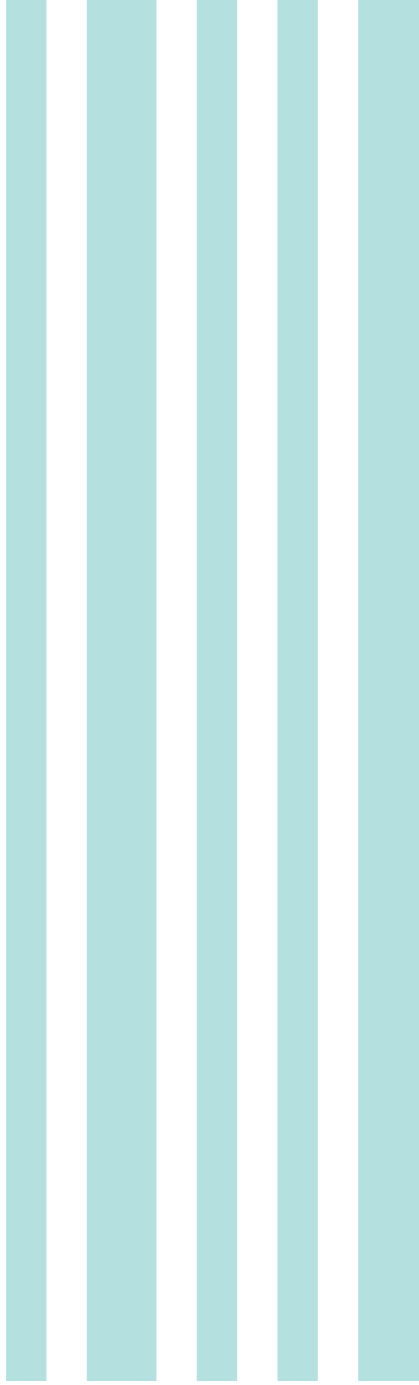
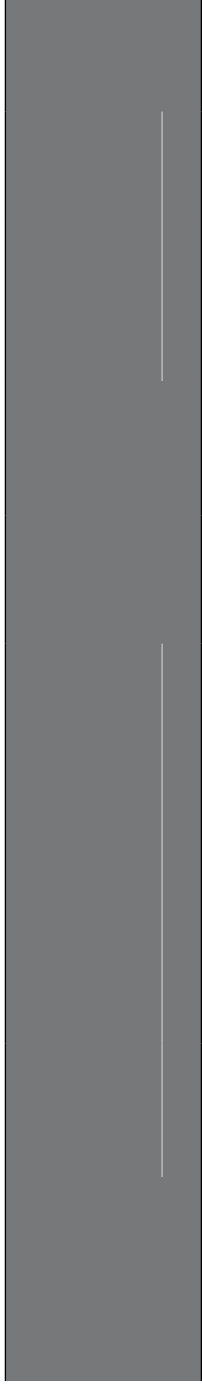
6H=J5#. 1+#6H?J5#LP.33.&' ()#6HQ>;#RHK=JN;#(! (1/, .33D#: .+(#/' (#&)OB/' #
09#, 1"! ()5"/(5#. 1+#09#1./"01.3#9, 1+"1&#/00#(^T(15"! (#90)#/' (#5/./(5;#50#
/' ./#/' (D#B(3-0: (+##/' (#9, 33#1./"01.3#/.Y(0! ()#09#9, 1+"1&7#@' (#6H?J5#. 1+#
(.)3D#6HI J5#B()#D(.)5#09#.-, /(#9"1.1-" .3#-)"5"5#./#5/./(#3(! (3#L8.)&"1501#
6HHIN7#A)' .T5#/' (#5/./(5#-01-(+(+##: 0)(#)(.+ "3D#/0#1./"01.3#T0B()#0! ()#
/' (#, 1"! ()5"/(5#F(-., 5(#/' (D# .+h3"//3(#"1/() (5/"1#/' (#T03"-D#.) (\LA.)Y"1#
.1+#Z1+()501#>JJI ;#6JN7#@' (#&)OB"1&#-05/#09#, 1"! ()5"/(5#. 1+#) (5(.)-' #
, 1+(): "1(+##/' (")-.T.-"/D#/0#9, 1+##/' (#: , -' #3.)&()#&O! ()1: (1/#5-' 003#
5D5/(: 5;#B' "-' #, 13"Y(#, 1"! ()5"/(5#B()#5((1# 5#-0)(#F, 5"1(557

Z#: .h0)#-0: : "//((#09#"1i , ")D#"1#6H=I #3(+#/0#/' (# Z, 5/).3".1#
[1"! ()5"/(5# 40: : "55"01#LZ[4N;#B' "-' #9, 1-/"01(+#.5#.#nF, 99))#
F(/B((1#4.1F0)).#.1+##/' (#, 1"! ()5"/(5;#B' "3(#: .)&"1.3"d"1&#/' (#5/./(57#
*(1/, .33D#/' (#/)T3(#-' .).-/()#09#/' (#Z[4q ., /010: 0, 3#

Z, 5/).3".# \$# 6RI

E1#.##/' O)O, &' &O"1D5/(: #)(9O): #"1#6HQI K6HH>;#/' (#/' (1#1."/O1.3#

1. 4.4



-O! ()# .3: O5/#' .39#O9#/' (#-O5/5#O9#+O: (5/'-#5/, +(1/#T3. -(57#E15/(.+#O9#
-O: T(/'/'O1#9O5/()"1&#. #+"! ()5"/D#O9#5, FC: .)Y(/5#. 1+#5T(-. 3"5/#T)O+, -/5;#
.5#"1#: .)Y(/5#9O#)(/. "3#-, 3/,). 3#&OO+5;#"1#/' (#[1"9"(+#<./"O1. 3#GD5/(: #
5, TT3D#5"+(#-O: T(/'/'O1#. 1+##&)OB/' #"1-(1/'! (5;#)(&, 3./(+#O1#/' (#F. 5"5#
O9#-O: : O1#T03"-D;#9, 1+"1&#. 1+#. --O, 1/.F"3"/D#)(i, ")(: (1/5;#' .! (#
9O5/()(+#3.)&(#&(1(). 3"5/'15"/, /"O15#/' ./#05/3(#9O)#F)O. +#: .)Y(/#-O! ()

6=R# \$#G": 01#8.)&"1501

@' (#U.BY"15#)(90): 5# .350# .--(3()./(+#.#/). 15"/"01#/0# +")(-/#
1./"01.3#9, 1+"1	#"15"/, /"015;#FDT.55"1&#/' (#5.//(5#. 1+#G(-/"01#H?7#E1#
<0! (: F()#6HH6;#. #GT(-.3#A): ")5\#4019() (1-(#09#1./"01.3#. 1+#5.//(#
&0! ()1: (1/5#90): .3"d(+##/' (#1./"01.3#&0! ()1: (1^5#)(5T015"F"3"/D#90)#
' (#T, F3"-#9, 1+"1	#" '&')#(+, -./"01#. 1+#.&)((+##/#B.5#)(5T015"F3(#
90)#n+(/(): "1"1./"01.3#T)"0"/"(5#. 1+#.--0, 1/.F"3"/D#09#"15"/, /"015\7#

5(-/0)#/0#: ((//' (#)(i, ")(: (1/5#09#. #-0: T(/"#! (#&30F.3#(1!")01: (1/\#
LU *G@#>JJ=. ;#RN7#%(#-.33(+90)#&)(./()#-015"5/(1-D#"1#/' (#)(&, 3./"015#
&O! ()1"1&#"15"/, /"015\#, 5(#09#3. 1+;#TOB()#/O#"1! (5/#. 1+#OT()./"015#0, /C
5"+ (#/' (")#90, 1+./"01.3#,)"5+"-/"01;#. 1+#"1#/' (#)(5/), -/,)"1	#&O! ()1C
"1&#FO+"(5#/O#": T)O! (#-.T.-"/D#"1#-0: : ()-"3#: ./()5C.33#.)(.5#B"/' "1#
5/./(#T)()O&..!" (7#<(3501#.350#.)&, (+#/' ./#!.)"./"015#F(/B((1#5/./)(5#. 1+#
/())"/O)"(5#"1#)(-O&1"/"01#. 1+#. --)(+/"./"01#-0, 3+#F(#-05/3D#90)#T)O!" +()5#

6=?# \$G": 01#8.)&"1501

E1#/' (#g 0)YT3. -(#S(3./"015#-.5(#09#>JJ?;#/' (#%"&' #40,)/#. TT(.) (+#0#
/.Y(#.#3.)&(#5/(T#"1#/' (#+"(-/"01#09#5/)01&()#1./"01.3#T0B()#B"/' "1#/' (#
9(+)./"017#E/#90, 1+#/' (#1./"01.3#&0! ()1: (1\5#T0B()#0! ()#-0)T0)./"015#
"1#G(-/"01#=#09#/' (#-015"/, /"01#B.5#10/#3": "/(+#/0#/' (#n).+"1&\#.5T(-/#
09#-0)T0)./"015#F, /#T0/(1/" .33D#(^/(1+(+#/0#.33#09#/' (")#.-/"!(57#@' (#
40,)/#5/./(+##/' ./#/' (#5/.)/"1&#TO"1/#90)#"1/()T)("/1&#/' (#-0)T0)./"01\5#

30&"-;#.5#.#1./"01.3#.1+#&30F.3#F, 5"1(55#1#T3.-(#09#"/5#90, 1+./"01.3#-'.)C
.-/()#.5#.#5()!.1/#09#5/./(:#/'(#T, F3"-#"/() (5/#.1+#30-.3#-0: : , 1"/D7

Z5"+(#9)0: #'/(#TO/(1/"3#09#/'(#-0)TO)./"015#TOB()#, 1+()#G(-/"01#
=6#09#/'(#-015/'/, /"01;#.1+##/'(#nF(1(9"/5#/#0#5/, +(1/5#-3., 5(:#B'-'#
.TT(.).5#/0#5, TTO)/#&).1/5#90)#5/, +(1/#5-'03.)5)'T5#0)#30.15#)./'()#/' .1#
90)#, 1!"(5)5"/"(5#/'(: 5(3!(5;#/'(#1./"01.3#&0!)1: (1/#.5#/')(#(T055"F3(#
!('"-3(5#B') (FD#/#-.1#.330.-/ (#9, 1+5#/#0#'"&')#(+, -./"01#15"/, /"015#
.1+#5/(#-01+/"015#&0!)1"1&#/'05(#9, 1+57#@' (#9)5#!('"-3(:#G(-/"01#
H?#&).1/5;#"5#-3().C-., /#"1#-015/'/, /"01.3#/'(): 5#F, /#)3'(5#01#.#90): #09#
-00T()./'(#9(+).3"5: #B') (FD#1./"01.3#&0!)1: (1/#B0)Y5#/')0, &' #
/'(#5/./ (57Z5#10/(+;#/'(#&0!)1: (1/#F3'(! (5#/'./#/'#.#5.#5(-01+#!('"-3(#
, 1+()#G(-/"015#=#6.1+#Q6;#(1.F3"1&#"/#0#: .Y(#.TT)0T)./"015#.1+#B. B5#
+)(-3D#B'/'0, /#) (-, 0)5(#/0#/'(#5/./ (5;#!(1#1#.#. //()5#5, -'#.5#(+, -./"01#
0, /5'+(#"/5#-015/'/, /"01.3#., /'0)"D7#@' (#/'")+#!('"-3(:#B'-'#3"Y(#/'(#
5(-01+#!('"-3(#"5#.55)/(+#FD#4.1F())#F, /#.#5#F((1#5, Fh(-/#/0#!.)"0, 5#
.1+#-0193"-/1&#"/1()T)/./"015#01#/'(#%'&')#40,)/#"5#/'(#, 5(#09#.#
-0: F"1./"01#09#G(-/"015#=#6.1+#76#/#0#(1.F3#/'(#&0!)1: (1/#0#(1&.&(#
"1#(1()T)"5(5#.1+#.-!/"5#T(-, 3".)3D#.+.T/(+#/0#/'(#&0!)1: (1/#09#
.#1./"01#.#1+#B'-'#-.#110/#0/')B"5(#F(#-.)" (+#01#90)#/'(#F(1(9"/#09#
/'(#1./"01#7#@' "5#"5#Y10B1#.#5#/'(#n1./"01'00+#TOB()7

%"&' #40,)/#+(-"5"015#1#>J6>#.1+#>J6R#T3.-(+##/'(#5(-01+#.1+##/'")+#
!('"-3(5#90)#1./"01.3#9, 1+"1#+0, F/#.1+#5, &&(5/(+##/'./#/'(#T055"F3"/D#
/'./#/'(#301&##)9"/#1#9.!0,)#09#1./"01.3#TOB()#: '&' /#F(#)!()5(+;#B'/'#
": T3"-./"015#90)#'"&')#(+, -./"01#E1#>J6>;#/'(#-0,)/#90, 1+#, 1.1"C
: 0, 53D#/'./#G(-/"01#Q6#B.5#10/#5, 99"- (1/#0#5, TTO)/#/'(#(^T(1+/,)#
09#: 01"(5#TT)0T)./(+##, 1+()#"/;#5, &&(5/"1&#/'./#.10/')#-015/'/, /"01.3#
0)#3("&53."!/#(T0B) #B.5#) (i, ") (+#/#0#5T(1+##/'(#: 01(D7#@' (#40,)/#3(9/#
0T(1#/'(#T055"F3"/D#/'./#/'(#1./"01'00+#TOB) #-0, 3+#F(#"1!0Y(+/#0#
5, TTO)/#(^T(1+/,)#5#T)!("0, 53D#5, TTO)/(+##, 1+()#G(-/"01#Q6;#F, /#/'(#
4'"(9#j, 5/"- (#90, 1+##/'./#/'(#1./"01'00+#TOB) #n-.110/#F(#"1!0Y(+
/0#5(/#.5'+(#/'(#+"5)"F, /"01#09#TOB)5#F(/B((1#40: : 01B(.3/'#.1+#
G/./ (5;#.1+##/BO#0/')#n, +&(5#10/(+##/'(#n3: "/(+#TOB)5#09#/'(#1./"01.3#
&0!)1: (1/#@BO: (D#>J6R;#>J;#OJN#@' (#1./"01.3#&0!)1: (1/#&10)(+##
/'(#: T3"-./"015#09#/'(5(#5/./(: (1/5#.1+##, 1!"(5)5"/"(5;#.1+##)T)!./(#(+, C

6=0# \$# G": 01#8.)&"1501

"/#-0, 3+#10/#F(#.TT3"(+#-00)-!"(3D#)#(3D"1#": T3"(+#m9(+).3#-015"+)().C
/"/015#/"1#"/5#"/1(O)T(/./"01#09#1./"01.3#T0B();#/"1#10/.F3(-01/).5#B"/' #
!"(B5#/' ./#' .+#F((1#(^T)(55(+#"1#/' (#>JJ?#g 0)Y#S(3./"015#-.5(7#@" (#
%&' #40,)#B.5#-01-()1(+##/' ./#1./"01.3#5T(1+"1&#"1#9"(3+5#B"/' "1#/' (#
-0: T(/(1-(#09#/' (#5/./5#'.+##/' (#-.T.-"/D#/#0#+": "1"5' #' (#. , /' 0)"D#09#
/' (#5/./5#/"1#/' (")#9"(3+5#09#0T)./"01#7#G(!).3#h, +&(5#(: T'.5"d(+##/' (")#
-01-()1#FO, /#/' (#, 5(#09#+")(-/#(^T(1+,"/),)5#/"1#T3.-(#09#G(-/"01#H?#
&).1/5#/#0#/' (#5/./5#/#@B0: (D#>J6R;#ORKRJM

@' (5(#9"1+"1&5#T3.-(#"1#h(OT.)+D#/' (#1./"01.3#&0! ()1: (1/5#+")(-/#
9, 1+"1	# '&')#(+, -./"01#1+#/5#.+: "1"5/)."! (#-01/03#/')0, &' #-01C
+"/"015#./..-' (+/#0#/'5#&).1/5#/#0#, 1!"()5"/"57#@' (D#5, &&(5#/' (#&0! ()1C
: (1/#: '&' /#F(#90)-(+##0#)(/,)1#/#0#G(-/"01#H?#&).1/5#/"1# '&')#(+, -./"01#;
.30B"1&#/' (#5/./5#/#0#/'1/!) (1(#"1#/' (#-01+"/"015#09#9, 1+"1&#.1+#T055"F3D#
905/)"1&#.#&)(./()#+"! ()5"/D#09#.TT)0.-' #0! ()#/' : (7#%0B(!);#.#/' (#
/' : (#09#B)"1&#/' (#1./"01.3#&0! ()1: (1/5#)(&' : (#09#+")(-/#&).1/5#.1+#
.+: "1"5/)."! (#-01+"/"015#'.+#10/#F((1#-' .33(1&(+#"1#/' (#%&' #40,)/7

E1#.#-0, 1/D#10/(#01#Z, 5/).3".1#(+, -./"01#/"1#6HHI;#/' (#__*4U#)(: .)Y(+
/' ./#h.3/' 0, &' #' (#, 1!"()5"/"5#.)#(5/.F3"5' (+#, 1+()#G/./(#&"53./"017...#
@' (#, 1!"()5"/D#5(-/0)#5#&(1().33D#T)-("!(+#"1#1./"01.3#/#): 5#;.1+#B(#
' (.)+#10#!"(B5#(^T)(55(+##/' ./#/' (#G/./5#5' 0, 3+#T3.D#.#F"&&())03(#"1#
/' (")#0T)./"015#__*4U#6HHI ;#>RN7#@' "5#"5#10#301&())#B' 033D#-0)(-/#
!(1#"9#/"#B.5#B' 033D#-0)(-/#"1#6HHI 7#Z3/' 0, &' #' (#1./"01.3#&0! ()1C
: (1/#.5#/' 0)0, &' 3D#(-3"5(+##/' (#5/./5#/"1#T).-/'-;#/' (#T0/(1/'.3#09#/' (#
5/./5#)(: ."15#3.)&(#.1+#9)0: #/' : (#/#0#/' : (#F(-0: (5#.TT.)(1/7

Z3/' 0, &' #' (#1./"01.3#&0! ()1: (1/#: .Y(5#T.D: (1/5#+")(-/3D#/#0#"15"C
/, /"015#/' (#5/./5#-.1#"1/!) (1(#"1#)(3./"01#/#0#9"1.1-#.3# : .1.&:(1/#
5/.1+.)+57#@' (D#-.1#350#., +"/# , 1!"()5"/D#.-/'/"(5#"1#.1D#.)(.7#20)#
(^.: T3(#"1#/' (#: "+C6HHJ5;#/' (#g (5/()1#Z, 5/).3".1#Z, +"/0)#P(1().3#
"55, (+#.#)(T0)/#01#/' (#-0: T3".1-(#09# , 1!"()5"/D#5/.99#B"/' #)(&, 3./"015#
&0! ()1"1&#-015, 3/.1-D#.-/'!"/"(5#.1+#T)"!./(#T)09(55"01.3#T).-/'-(7#
G, F5(i, (1/3D;#/' (#X"-/0)".1#Z, +"/0)CP(1().3#)(3(.5(+#.#)(T0)/#01#

Z, 5/).3".# \$# 6=H

"1/()1./"01.3#(+, -./"01#B' "-' #, 1-0! ()(+5"&1"9"- .1/#93.B5#"1#B(39.)(#
T)0!"5"01#.1+#5, &&(5/(+#/' (#, 1"! ()5"/"(5#-0: : "/: (1/#/0#/' (#).T"+#-0: C

6?J# \$#G": 01#8.)&"1501

>J6>N7#G/./(#9, 1+"1&#B.5#h0"1(+##0#: .h0)#+01./"015#9)0: #' (#[GCF.5(+#

90)#(^.: T3(;#/')0, &' #.#-0: F"1(+#Z, 5/).3".1#F , .3"9"-./"015#2):. (B0)Y#
.1+#-01! (1/"015#&0! ()1"1/, +(1/#: OF"3"/D#.1+#-)(+/"#/) .159()7#@' (#
T055"F"3"/D#09#.#-0: T3(/(#1./"01.3#/.Y(O! ())09#X*#@#B.5#930./(+#"1#/' (#
(.)3D#6HHJ57#<./"01.3#/) . "1"1/.1+.)+5#B() (#(5/.F"3"5' (+;#F, /#U.BY"15#
B.5#, 1.F3(#/0#"193, (1-(#5/./(#T03"-D#5, 99"- (1/3D#/')0, &' #/' (#9, 1+"1&#

Z, 5/).3".# \$# 6?0

[1"! ()5"/"(5#B"/' #5/)01&#&30F.3#).1Y"1&5# ' .! (#.#5"d(.F3("#1+"!"+, .3#

4.5 Export Income from International Education 2014–2015, and International Student Enrolments in Higher Education 2014, by State/Territory

| State/Territory | 2014 | 2015 | 2014 |
|--------------------------|--------|---------|-------|
| | A \$ M | | % |
| New South Wales | 6,722 | 79,192 | 19.49 |
| Victoria | 5,615 | 81,937 | 25.24 |
| Queensland | 2,708 | 47,192 | 20.16 |
| Western Australia | 1,345 | 19,183 | 15.43 |
| South Australia | 1,127 | 16,399 | 18.81 |
| Tasmania | 164 | 3,220 | 11.60 |
| Northern Territory | 55 | 1,804 | 15.59 |
| Australian Capital Terr. | 436 | 9,699 | 24.95 |
| Multi-state | – | 2,947 | 9.05 |
| AUSTRALIA | 18,775 | 243,617 | 20.31 |

Source: Australian Department of Education (2014, 2015).

Note: In 2014–2015, the higher education sector alone generated \$12.5 billion in export income, which was 68.6 per cent of all export revenues. The total includes tuition fees and the living and transport expenses of international students and their families into and in Australia.

"15"/, /"015#. 1+#! "5.#T03"-D;#B' "3(#5/. /(#. 1+#: , 1-"T.3#. , /' 0)" /" (5#T3.D # /' (#. ."1#)03(#"1#5/, +(1/#" 0, 5"1&#;B(39.) (#T03"- "1&#. 1+#5.9(/D#. 1+#,)F. 1# T3. 11"1	#9. -"3"/" (57#G' (1#"1#>JJQK>J6J#/') (#B.5#.#-) "5"5#09#5/, +(1/# 5.9(/D#"1#X"-/0)". ;#B' "-' #T.) /"- , 3.)3D#.99(-/(+#E1+" . 1#5/, +(1/5;#/' (#5/. /(# &0!)1: (1/#+(1#"+#/' (#T)OF3(: #) . /')#/' . 1#. ++)(55"1&#/'7#@' "5#T3.D(+ # "1/0#1(&./"!(#T, F3"-/D#"1#E1+" . #.8.)&"1501#(</# .37#>J6JN#. 1+#/' (#-033.T5(#

09#+(: .1+#9)0: #GO, /' #Z5".#"1#>J6JK>J6>7#2"): ()#1./"01.3#5/.1+.)+5#
09#-.)(#-0, 3+#' .!(#T)(!(1/(+##/' "57

@' (#Z, 5/).3".1#5/0)D#09#9(+)./"01#.1+##' "&' ()# (+, -./"01#"5# ./DT"- .37#
E1#50: (# -' .T/()5#"1#/' "5#FOOY;#1./"01.3W)(#"01.3#+#99() (1/"01#"5#
.550-./(+##B"/' #T)OF3(: 5#09#-00)+#1./"01#.1+##90): 5#09#' (/()0&(1(C
"/D#/' ./#-0: T)O: "5(5#T03"-D#OFh(-/!(57#2(+)./"01#5((: 5#/O#"1/()), T/#
.1#"1-0: T3(/(#T)O-(55#09#: O+()1"d./"01#.1+##+(! (30T: (1/7#E1#O/' ()#
-' .T/()5:#)(&"01.3#+#99() (1-(5;#T055"F3D#.-0: T.1"(+#FD#.#5/), -/.)(+##
+#! ()5"/D#09#"15"/, /"01.3#/DT(#.1+##: "55"01;#"5#5((1#.#5.#1#.#55(/#B"/' "1#.#
3.)&())#5D5/(: 7#@' "5#"5#.#3./()#5/.&(#09#: O+()1"d./"01#"1#B' "-' #+(- (1C
/).3"d./"01#"5#: O)(#-3(.)3D#T05"/!(7#Z, 5/).3".#F(301&5#/O#1 ("/' ()#-.: T7#
E/# .5#-0: T3(/(+##/' (#.)3D#: O+()1"d./"01#5/.&(#B"/' O, /#(: F.)Y"1#
/' (#3./()#5/.&(#09#+(- (1/).3"d./"01#.1+##: O)(#1, .1-(+##T)O!"5"017#U(5T"/(

, 1"! ()5"/(5;#B(.Y#9. -, 3/D#+5-"T3"1.)D#+(1/"(57#E1#. ++"/"01;#1#Z, 5/).3".;#
/' ()(#5#10B#+": "1"5' (+#./(1/"01#/0#T, F3'-#&00+5#1#' "&' ()#(+, -./"01;#
.5#+5/"1-/#9)0: #/' (#T)"!./(#F(1(9"/5#90)#"1+"!"+, .3#&).+, ./(57#@' (#10)C
: ./"!(#5' "9/#9)0: #T, F3'-#/0#T)"!./(#&00+5#B.5#9. -"3"/.(+#FD#/' (#T).-/"-.3#
)(: 0!.3#09#, 1"! ()5"/(5#9)0: #/' (#5/./(#5T')(#B')(#T, F3'-#&00+5#B()(
: 0)(#-01-)/(/#.1+#30-.3"d(+##/' .1#/' (D#.)(#"1#/' (#1./"01.3#5T')(/

@' (# i , .5"#: .)Y(/# ' .5# .350#), 1#, T# .&."15/#/5#3": "/57#b.)&(C5-.3(#
1(03"F().3# T)"!./"d./"01# ' .5# 10/# ' .TT(1(+7#E/#"5#": T055"F3(#/0#/ ,)1#
T, F3'-#, 1"! ()5"/(5#B/' #1')"/(+50-" .3#9, 1-/"015#"1/O#. #3.)&(#!"F).1/#
T)"!./(#5(-/0)#"1#. #-01/(5/.F3(#: .)Y(/;# .1+;##+(5T"/(#: .)Y(/#" + (030&D;#
/' (5(#3, : F)"1&#T, F3'-#F(.5/5# ' ! (#F30-Y(+##/' (#-' .33(1&(#09#/' (#1(B#

620# \$# G": 01#8.)&"1501

"1/0#3"1(#FD#1./"01.3#&0! ()1: (1/#-01/)03#09#)!(1, (5q/0#*^3\$25<@)/
0)&*52-. , #B' ()(FD#/' (#5.//(5#B () (#' .)1 (55(+.#5#! (' "-3(5#09#1 (03" F () .3#
90): 5#09#&0! ()1: (1/7#@' (#__* 4U#+(5-)"F(5#/' (#(!03, /"01#09#Z, 5/).3".1#
9(+().3"5: #.5#90330B5a

g ' "3(#40: : 01B(.3/' #&0! ()1: (1/#.-/"! "5: # "1#: .1D#.)(.5#' .5#F((1#
5((1#"1#/((): 5#09#-)(T"1&#-(1/).3"5: #FD#50: (#0F5())!05;#/#)(5T01+5#
/0#/' (#/B"1#)(.3"/(5#09#.#-' .1&"1&#(-010: "-.#.1+#50-.3#(1!"01: (1/#
.1+#.#4015"/, /"01#/' ./;#B' "3(#): ."1"1.)&(3D#, 1.3/() (+90)#0!)#.#
-(1/,)D;#' .5#5((1#./(: T/5#FD#/' (#40: : 01B(.3/' #/0#(^/(1+#/5#)('.- #
3.)&(3D#F("1&#!.3"+./(+;#0)#(1.F3(+;#FD#+(-"5"015#09#/' (#-015"/, /"01.3#
-0,)/7#L_* 4U#>J6>;#?JW

c(/;#(!03!"1&#h, +"- .3#"1/()T)/(./"015#09#1./"01.3#.1+#5./(#TOB) #- .1#
: 0! (#"1#("/' ()#+))(-/"017#U(5T"/(#/' (#"1/()&0! ()1: (1/.3#.)-' /(-/,)(#
90)#9. -"3"/."1 (&0"/."015#.1+#-0: : 01.3"/D#09#" (B;#/' (#5/, /"01#"5#
, 15/.F3(7#E1-)(.5"1!03! (: (1/#09#/' (#40: : 01B(.3/' #&0! ()1: (1/#
"1#TO3"-D#.) (5#T)!"0, 53D#: .1.&(+#B' 033D#0)3.)&(3D#FD#/' (#5.//(5#' .5#
-. , 5(+#"1-)(.5(+#/ (15"015#F(/B((1#/' (#40: : 01B(.3/' #.1+#/' (#5.//(5#
L_* 4U#>J6>;#?JK?6N7#_1#01(#.1+;#+) (-/#&).1/5#90)# "&' ()#(+, -./"01#
.1+#)(5(.)-' #.) (#OT(1#0#3(&.3#-' .33(1&(7#@' (#%&' #40,)/#'.5#: .+(#
-3(.)#"/5#+(5)(#/0#)("1#"1#.#9)((B' ((3"1
/"01#09#/' (#5-0T(#09#/' (#
1./"01.3#&0! ()1: (1/7#_1#/' (#0/')#/' (#T!)! .5! (#, 5(#09#5T(-.3#T,)T05(#
&).1/5#0#/' (#5.//(5#, 1+)#G(-/"01#H?#'.5#h/' (#(99(-/09#/,)1"1&#!()D5#.//(#
&0! ()1: (1/#9, 1-/"01#"1/0#.#-01-,)) (1/#9, 1-/"01#;" : T3D"1&#n5, F5/.1C
/" .3#)(+, -/"015#"1#(-010: "-#(99"-"(1-D#L_* 4U#>J6>;#?6N7#@' ()#.) (#
: .1D#T055"F"3"/(57#E/#"5#(! (1#-01-("!.F3(#/' ./#' "&' ()#(+, -./"01#-0, 3+#
9).&: (1/#F(/B((1#.#i, .5"C"1+(T(1+(1/#1./"01.3W&30F.3#, 1!")5"/(5#.1+#
0/')#"/5"/, /"015#/' .#.) (#: 0)(#5T(-"9-.33D#/'(+#0#/' (#5.//(5q #).33(3"1&#
5D5/(: #+(5&1#1#;#5.D;#4' "1.#0)#/' (#[1"/(+#G/./ (5q /' 0, &' #./#/"5#/" : (#
/')(#"5#10#5"&1#09#5D5/(: #+"99() (1/"./"017

Z1#OT(1#5(/#09#T055"F"3"/(5#-.335#, T#10): ./!" (#.5#B(33#.5#(: T")-.3#
h, +&: (1/7#E1#/' (#T()0+#90): #g0)3+#g.)#EE#01B.)+#"1#Z, 5/).3".#/' (#
1./"01.3#&0! ()1: (1/#B.5# : 0)(#': .&"1./!" (#"1#"/5#T()5T(-/"! (:# : 0)(#
.+! .1-(+#"1#(^T)/"5(#.1+#3(55#-0)), T/(+#FD#)0, /"1(#0)#FD#T)!./(#"1/()C
(5#/' .1#B()#/' (#5.//(57#E9#: 0+)01"d./"01#.1+#+.T.-/D#F, "3+"1&#.) (#
5((1#.5#/' (#T)": .)D#OFh(-/"! (5;#/' (#+)"9#/0#1./"01.3#-01)03#"1#"&' ()#

(+, -./"01#B.5#F(1(9"-."3#0!().33;#./#3(.5/;#9)O: #6HR>#/O#6HH>7#G"1-(#
/'(1#/'(#n!."33.∨+0B15"+(#09#1./"01.3#.,1"90): "/D#".5#F(-O: (#: O)(#
.TT.)(1/;#.1+#1./"01.3#&O!()1: (1/#'.5#09/(1#,5(+##/5#9"5-.3#-01/)O3#/O#
'03+##+0B1#0)#T)!./"d(#9,1+"1&#)./'()#/'."1#"1-)(.5(#/"7#E/#"5#.350#3(55#
-3(.)#/'./#/'(#03+#5/./W1./"01.3#&.T#"1#(^T)/"5(#5/"33#(^"5/57

@'(#*,)OT(.1#[1"01#5, &&(5/5#/'(#F(1(9"/5#09#.#+(-(1/).3"d(+##
.TT)0.-'#T): "5(+##01#,1"/D#"1#+!"()5"/D;#"1#B'"-'#-0: : 01#5D5/(: 5#
(1.F3(#T)0+, -/!"(#"1/()1.3#.1+#(^/()1.3#)(3./"015#)./'()#/'."1#OT()./"1&#
.5#: (.15#09#'0: O&(1"d"1&#.-/!"D7#@'(#1(/BO)Y#"5#5/.1+.)+"d(+;#10/#
/'(#10+(5;#B'"-'#.#)(#(^T(-/(+##/O#: .Y(#,5(#09#/'(")#.&(1-D#9)((+0: 7#
S(- (1/#%"&"#40,)/##+(-"5"015#"1#Z, 5/).3".#90)(5'.+0B#/'(#T055"F"3"/D#
09#.#)(.55)/"01#09#5/./(-015"/,/"01.3#T0B()7#E1#"&'()#(+,-./"01;#/'"5#
-0,3+#(1.F3(#.#: O)(##+(-(1/).3"d(+##.TT)0.-'#B"/'#. #3.)&()#.,/O10: D#
.1+#-)(./"1"/D#"1#/'(#5/./5#1+W0)#/'(#"15"/,/"015#/'(: 5(3!(57#_1#.#
&00+##.D;#/'"5#-0,3+#3(.+##/O#.#F)O.+()#T3,).3"d./"01#09#,1!"()5"/D#: "5C
5"01;#90)#(^.: T3(:#/')O, &'#/'(#905/()"1	#5T(-."3"5/#5/)(1&/'5;#B"/' #
.#3(55()#1, : F()#09#,1!"()5"/"5#-0: : //"(+##/O#/'(#: (&.C3.)&(#9,33D#
-0: T)('15"!(#: 0+(37

@' "5#.301(#B0,3+#10/#F)(.Y#/'(#5"1&3(#: 0+(3#09#"&'#5-(1-(#: ,3/"C
!)5"/D;#)("190)-(+.#5#/'#5#FD#&3OF.3#).1Y"1&7#Z, 5/).3".1#T03-D#"5#10/#/'(#
013D#: ": (/"-#90)-(7#80)(O!());#. #9(+).3"5: #F.5(+##01#,1"/D#"1#+!"()5"/D#
)i,")(#5#.#: O)(#5OT"5"/-./(+##.1+##"&'()#"5YN#.TT)O.-'#/".1#Z, 5/).3".#

61J# \$G": 01#8.)&"1501

Z, 5/).3".1#U(T.): (1/#09#*+, -. /"O17#>J6R7#nG(3(-/(+#%&' ()#*+, -. /"O1#G/./"5/"-57#
Z! ".3.F3(#.#/ /T#WW(+, -. /"O17&O!7., W' "&' ()C(+, -. /"O1C5/./"5/"-5
q q q q 7#>J6=7#S(5(.)-' #E19).5/), -(,)(# 30-Y#P).1/57#Z! ".3.F3(#.#/ /T5aWW(+, -. C
/"O17&O!7., W)(5.)-' C"19).5/), -(,)(CF30-YC&).1/5
q q q q 7#>J6=7#^*^TO)/#E1-0: (#/O#Z, 5/).3".#9)O: #E1/()1./"O1.3#*+, -. /"O1#Z-/"!"/D#
"1#>J6RK6=7#Z! ".3.F3(#.#/ /T5aWW"1/()1./"O1.3(+, -. /"O17&O!7., W)(5.)-' W
S(5(.)-' CG1.T5" O/5WUO-, : (1/5W*^TO)/M>JE1-0: (M>J2C>J6RC=7T+9
Z, 5/).3".1#P0! ()1: (1/7#>J6R7#n<./"O1.3#A)O/O-035#90)#%"&' ()#*+, -. /"O17#
Z! ".3.F3(#.#/ /T#WWBBB7"1+, 5/)D7&O!7., W' "&' ()(+, -. /"O1WG/, +(1/G, TT0)/W
<./"O1.3A)O/O-03520)%"&' ()*+, -. /"O1ZTT)O! .3A)O-(55(5WA. &(5W+(9., 3/7.5T^
`"-';#E7#6HI =#M+%.<.<+52/G).4+%. -1-2-</0+*/ =&\$75<+%/-%/; \$.<?52-57# 4.1F()).#
Z, 5/).3".1#<./"O1.3# [1"! ()5"/D#A)(557
`).+3(D:#U7#>JJQ7#G@)X/+0/B-38)*/*=&\$75<+%/K/6-%52/G)4+*<7#4.1F()).#Z, 5/).3".1#
P0! ()1: (1/7
`),Y(:#P7#6HQ07#n%0B#b.)&(#Z)(#/' (#4, /5#"1#_T()/'1#&#P).1/5#T()#G/, +(1/r#
; \$.<?52-5%/Q%-@)*.<.<./G@)X#O6#L>N#R>KR07
`),/O1:#@7:#U033()D:# 7:#.1+#G .335;#j7#>J6?7#nZ#4(1/,)D#O9#X()/'-.3#2"5-.3#E: F.3.1-(#
"1#Z, 5/).3".1#2(+).3"5: \#B-.<+J/+0/=7+%, -7./G@)X#0?#>?KR07
40: : 01B(.3/' #P).1/5# 40: : "55"O1#L4P4N7#>JJ17#R*)%&./-%/ M+, , +%X)52-8/
?<5/>6-%5%7-52/G)25<+%.K/; /A*5%<./M+, , -..+%/F*)4)7<@)7#`.-Y&O, 1+#A.T()7#
4.1F()).#P4Z7
4).!(1;#P7#>JJ?7#n40: : 01B(.3/' #A0B()#0! ()#%"&' ()#*+, -. /"O1#E: T3"-./"O15#
.1+#S(.3"/" (57#F\$12-7/F+2-7J#6#L6N#6K607
4)0, -' ();#P7;#8.)&"1501;#G7;#<0)/O1;#Z7;# .1+#g (335;#j7#>J607#R8)/: 5XD-%/
G)@+2\$<+%/TW/h)5*./+%7#8(3F0,)1(#8(3F0,)1(# [1"! ()5"/D#A, F3"5"1&7
U.!"(5;#G7;# .1+#Z.)"9.;#U7#>J6>7#n@' (#G/)./"9"-./"O1#09# [1"! ()5"/" (5a#G/), -(,).3#
E1(i, .3"/D#"1#4.1.+.#.1+##/' (# [1"/(+G/./ (57#G).)5*78-%/?+7-52/?<?5<0-75<+%/5%&/
H+1-2-<#OJ#L>N#6R0K6=07

%033.1+();#S7#.1+#A./..T.1:#%7#>JJ17#A).&: .!="#2(+().3^5: a#Z, 5/).3".1#2(+().3^5: #
 9)0: #%.BY(#/0#%0B.)+7#; \$.<^52-5%/Y+\$%52/+0/ F\$12-7/; &, -%.<^5<+##??LONa#
 >QJK>HI7#wA.&(#1, : F)5#-"/(+##1#/(^/#.)(#9)0: #: ": (O#! ()5^01x
] (33D:#A7#6HH>7#R8)/=%&/+0/M)*-5-%<JK/R8)/?<+*J/+0/<8)/VZcU.7#GD+1 (D# Z33(1# . 1 +
 [1B^17
 b("+ (1# [1"! ()5^/D7#>J6R7# R8)/")-&)/ G5%D-%3/ TUV[7# 4(1/)(#90)#G-"(1-(# . 1+#
 @(-' 1030&D#G/, +"(57# Z! . "3. F3(#. /# ' //T#WWBBB73("+(1). 1Y^1&7-0: W
). 1Y^1&W>J6R
 8. -"1/D)(;#G7#>J6=#; \$.<^52-5P./! +2&).</=>4)*,)%<K/ C5^/5%&/G)7)+%.<^\$7<+%/ -%/ <8)/
 VZ[U.7#GD+1 (D#< (BGO, /' #A, F3^5' "1&7
 8.)&"1501:#G7#6HHI7#=#&\$75<%3/; \$.<^52-5K/ A+@)*%,)%</ =7+%, J/5%&/M-<E)/.-%7)/
 VZdU#4.: F)"&(a#4.: F)"&(#[1"! ()5^/D#A) (557
 qq q 7#>JJ17#P3OF.3#A05^/"01#. 1+#A05^/"01C/.Y^1#a#@' (#4.5(#09#Z, 5/).3".\7#Y+\$%52/
 +0/?\$&-. /-%/L%<)*%5<+%52/=&\$75<+##66#L6Na#=#KO>7
 qq q 7#>J6R7#n [1"! ()5^/D#S. 1Y^1&5#. 1+#GO-" .3#G-"(1-(\7#=#^+4)5%/Y+\$%52/+0/
 =&\$75<+##RH#L6Na#R=K=H7
 8.)&"1501:#G7#. 1+#4015^+"1(;#87#>JJJ7#R8)/=%<)*4^-.)/Q%&)*.-<JK/F+X)*_A+@)*%5%7)/
 5%&/G)-%&)%<+%/-%/; \$.<^52-5

61># \$#G": 01#8.)&"1501

2./-/*.*3'@-/%&#. ;%&/5%/-,1'G%#.-, -./3

@' (#2(+).3#S(T, F3"-#09#P(): .1D#B.5#90, 1+(+##1#6HRH#.5#. #5, --(550)#
5./(#/0#/' (#P(): .1#G)-78#09#/' (#T)(CB.)#/' : (#.1+#.5#. #: ()&()#09#/' (#
T05/CB.)#g (5/()1#P(): .1K`)"/'5' ;#2)(1-' #.1+#[G#0-- , T./"01#d01(57#
E1#6HHJ;#/' (#P(): .1#U(: 0-)./'-#S(T, F3"-;#T)('0, 53D#/' (#T05/CB.)#
G0!"/#0-- , T./"01#d01(;-(.5(+##0#(^"5/#.1+#F(-.: (#T.)/#09#/' (#2(+).3#
S(T, F3"-#09#P(): .1D7

@' (#-015"/, /"01#LA*\$%&3.)<EN#09#6HRH#: .Y(5#T)O!"5"01#90)#.#
2(+).3#5D5/(: ;#B' ()(FD#50: (#)"&' /5#.)(#&).1/(+#503(3D#/O#/' (#2(+).3#
. /' 0)"5#0/' ()5#hO"1/3D#/O#/' (#! \$%&#.1+#/' (#" (%&)*#L/' (#9, 1-"01.3#
(i, "!.3(1/#09#T)O!"1-(5#1#4.1.+.;#5./.(5#1#/' (#[1"/(+##G./.(5##5%<+%#
"1#GB"/d)3.1+;#(/-7N;#.1+#9"1.33D#0/' ()5#503(3D#/O#/' (#" (%&)*;#0)#30-.3#
-0: : , 1"/(5#1#/' (#9): (B)Y#09#/' (#" (%&)*#., /' 0)"(57#@' ()(#.)#
/BO#T.)3": (1/5#01#/' (#1./"01.3#3(! (3q /' (#! \$%&).53;#(3(-/(+##FD#/' (#
P): .1#TOT, 3./"01#B"/ #!0/"1&#"&' /5;#.1+#/' (#! \$%&).*5<;#.#5(-01+#
-' .: F) #B"/ #F(/B((1#/')((#.1+#9"! (#&O! ()1: (1/#)(T)(5(1/./"! (5#09#
(.-' #""5%&#L66#"" (%&)*#1#6HRH#.1+#6?#5"1-(#6HHJN7#E9#3(&.3#TOB()#)(5/5#

61R# \$# [3)'-'#@('-' 3Q)

P(): .1D# \$# 6l=

(+, -./"01#"5#5((1#.5#' "&' 3D#: TO)/.1/#90)#/' (#n' 0: 0&(1("/D#09#3!"1&#
-01+/"015\#.1+#/' ()(90)(#"1#1((+#09#-00)+ "1./"01#.1+#TO55"F3D#h0"1/#
.-/"01#"1#. /#3(.5/#50: (#)5T(-/5#L-97#@("-' 3()#6HH>V#.5#)(&.)+5#/' (#3(&.3#
5(//"1&#;#5((#%("3F)011())#.1+#P("5#>J6>V#S("-' #>J6>V#@' "(: (#>JJRN7#
P(): .1D#"5#. : 01&#/' (#9(+).3#5D5/(: 5#"1#B' "-' #1./"01.3#TOB())#.1+#
1./"01B"+(#-00)+ "1./"01#T3.D5#. #)(3./"! (3D#5/)01&#)03(#L-97#40)/m5#.1+#
@("-' 3()#>J6JN7

@' , 5;#9(+).3"5: #"1#' "&' ()#(+, -./"01#"1#/' (#2(+).3#S(T, F3"-#09#
P(): .1D#9.-(5#. #9, 1+.: (1/.3#+3(: : .\#LA("5()/#.1+#2): ' ("1#6HIQIq
10/#013D#/' (#-015"/, /"01#F, /#.350#T, F3"-#(^T(-./"015#-.33#90)#B.D5#09#

61?# \$# [3]"- '#@("-' 30)

{# @' (#. :h0)"#D#09#1 (B#(1/). 1/#/, +(1/5#.)#(1)033(+.#/# 1"!)5"/"(5q
"15"/"/, /"015#/' /.#. B.)++0-/0). 3#+(#)(5#. 1+#(: T' .5'd(#F0)' #/(-' C
"1&#. 1+#)(5(.)-' 7# b01/, +D#T)O&). : (5#3(+##/). +"/"01. 33D;# .1+#
5"/"33#1#T.)/#3(. +#/0+. D;#O#.#: -42+, ;#H53.-<)*#O)#.#5/. /(#^.: "1./"01#
"1#5(3(-/+(#9"(3+5q .33#-015"+))(+ #(i, "! .3(1/#/O#.#: .5/)#+(#)((#1#
Z1&30CZ: ()"- .1#-0, 1/)"(57#8 05/#T)09(550)5#'. ! (#. 1#+(1/"-.3#/(-' C
"1. +#F. 5(+#01#/' (#(^T(-./"01#/' /##/ (D#5T(1+#. FO, /#/ (5.: (#
.: 0, 1/#09#/" : (#01#/(.-' "1&#. 1+#)(5(.)-' 7

{# E1#/' (#B.Y(#09#(^T. 1+"1/, +(1/#1, : F)5;#65788+78.78\$2)%#B()#
(5/. F3'5' (+.#)0, 1+#6HI J#. 5#. #5(-01+##15"/, /"01. 3#/DT(7#@' (D#+#99()#
9)0: #, 1!")5"/"(5#1#/' (")#: 0)(#. TT3"(+##,))"-, 3.;#1#/' /##/ (#/(-' C
"1. +#09#T)09(550)5#5#:# 0)(#/' .1#/B"- (#. 5# '&' #. 5#90)#, 1!")5"/D#
T)09(550)5;#1#10#F("1&#(^T(-/+(#/#/). "1#h, 1"0)#. - .+(: "-5# .1+#
. B.)++0-/0). 3#+(#)(5;# .1+#"1#+0"1&#. TT3"(+#10#F. 5"-#)(5(.)-' ;#
01#.#: 0+(.) /(#5-. 3(#L*1+()5#>J6JV#] 3, : TT#. 1+#@("-' 3()#>JJQW#
E1"/. 33D;#5/, +D#T)O&). : (5#09/(1#-0: T)"5(+##/')(##D(.)5#09#3(.)1"1&#
"1#-3.55(5# .1+#01(CD(.)#1/()15" T57#@' (#: -42+, #. B.)+(+##/(1+(+/#O#
F(#!"(B(+##1/()1./"01. 33D#. 5#F/B((1#F.-' (30)#. 1+#: .5/()#3(! (3#
@O#1-)(. 5(#1/()1./"01. 3#-0: T.). F"3"/D#. 1+#!"5F"3"/D;#5"1-(# .FO, /#
6HHJ#/' (#5/, +D#T)O&). : (5#'. ! (#F((1#099"- .33D#-. 33(+90,)CD(.)#
T)O&). : (57#@' (#"15"/, /"015#F(&. 1#.#/' /##/" : (#/O#). 153./(#/' (")#
1.: (#"1/O#*1&3'5' #. 5#h, 1!")5"/"(5#09#. TT3"(+##- (1-(57

{# X.)"0, 5#0! ()!"(B5#09#P): . 1# '&' ()#(+, -. /"01#T)(5(1/#.#01&()#3'5/#
09#15"/, /"01. 3#/DT(57##\$% .<8+78.78\$2)%#L-033(&(5#09#.)/#. 1+#: , 5"-N#.)#
-' .). -/()d(+##D#5T(-"9"-#5(3(-/"01#T)0-(+,)5;#.#5)01&#(: T' .5"5#1#
/(-' "1&#. 1+#3(.)1"1#T). -/"- .3#T()90): . 1-(# .1+#013D# .B.)+"1&#
+0-/0). 3#+(#)((5#1#5(3(-/#5-"(1/"9"- .33D#0)"(1/(+T)O&). : (5;#5, -' #
. 5#.)#/"5/0)D7

@). +"/"01. 33D;#90,)#D(.)5#09#(3(: (1/.)D#5-' 003"1&#. 1+#1"1(#D(.)5#.#/#
AJ, %5.-\$, #3(+##/O#/' (#; 1-\$*#B' "-' #1#T)"1-"T3(#(1/"3(5#/' 05(#B' O#
T. 55(+##/' 5#+(: . 1+"1	"1. 3#(^.: "1./"01#/O#(1)03#1#. 1D#9"(3+#. 1+#. 1D#
, 1!")5"/D7#*! (1#B' (1# .+ : "55"01#)(5)/-"015#L ` ,)*\$./725\$. \$.#&)(B#
"1#50: (#9"(3+5# .1+#"15"/, /"015#1#/' (#6H?J5;# .+ : "55"01#)(#&, 3./"015#
(15,)(+##, 1!")5"/D#(1)D#.#/3(. 5/#. 9/()#.#B. /"1&#T()0+#L5((#@("-' 3()#
6HQ=N7#@' (#(1)D#i, . 3"9"-./"01#90)#65788+78.78\$2)%#L6B.N#5#F. 5(+##01#6>#
D(.)5#09#5-' 003"1&7#_! ()#/' (#D(.)5;#/' (#(1)D#)0, /(#5#O# '&' ()#(+, -. /"01#

+!"()5"9"(+;#0#1-3, +(#!(1#(1)03: (1/#90330B"1&#, T01#5, --(559, 3#! 0-.C
/"01.3#/)."1"1, F5(i, (1/#0#-0: T, 350)D#5-' 003"1&7

E1#/' (#B.Y(#09#/' (#50C-.33(+#` 030&1.#A)0-(55#1#*,)0T(#5"1-(#6HHH;#
FO/' #, 1!"()5"/(5#.1+#, 1!"()5"/(5#09#.TT3"(+#5-"(1-(5#/).1590): (+#/' (")#
5/, +D#T)0&).: : (5#"1/0#L09/(1#/')(CD(.))N#F.-' (30)#T)0&).: : (5#.1+#
L09/(1#/BOCD(.))N#: .5/()#T)0&).: : (57#@' (#)"&' /#/0#.B.)+# +0-/0).3#
+(&)((5#)(: ."1(+ #-019"1(+#/0#, 1!"()5"/(57

@' (#/0/.3#1, : F()#09#"15"/, /"015#09#" "&' ()#(+, -./"01#"1#/' (#2(+).3#
S(T, F3"-#09#P(): .1D# B.5#"1"/.33D#.FO, /# 6JJ#.1+# 6>?"1#6H?J7#E/#

610# \$#

P(): .1D# \$# 6IH

"*)*%)%&)%

6QJ# \$# [3) '- '#@(' - ' 3Q)

.)(#!"(B(+#.5#5": ,3/.1(0,53D#"1+"-. /"1&#/' (#5/)(1&/' #.1+#-01/)F, /"1&#
/O#/' (#5/)(1&/' #O9#/' (#5D5/(: 7

@' (#(: T' .5"5#T3. -(+#01#(i, "! .3(1/#i , .3"/D#: .01&#, 1"! ()5"/"(5#B.5#

(1)03: (1/#)./(#"1#" "&')#(+, -./"01#)(: ."1(+##F(30B##/' (#.!)&(#09# (-010: "-.3D#. +! .1-(+##-0, 1/)^(5#9)0: ##/' (#.)3D#T05/CB.)#D(.)5#, 1/"3# .FO, /#>J6J7#%0B(!):#: .1D#(^T()/5#T())-(!"(#.#&).+, .3#T)0-(55#09#)(-015"+)./"01#"1#P(): .1D#.5#)(&.)+5#/' (#3"1Y5#F/(B((1#5/, +D#.1+# -.)())#"1#/' (#B.Y(#09#).T"+##&)0B/' #09#(1)03: (1/#.1+##D1.: "-#-' .1&(5# "1#/' (#B0)3+##09#B0)Y7

Z#90,)/' #-').-/(#"5"-#09#/' (#P(): .1#, 1!")5"/D#5D5/(: #"5#-8)/. <+%3/ -%02\$%7)/+0/<8)/.5<)/+%8-38)*!&\$75<+##7#80)(#/' .1#HJ#T)#-(1/#09#5/, +(1/5# .)(#(1)033(+##./#T, F3"-#15"/, /"0157#@' (5(#"15"/, /"015#, 1/"3#)#-(1/3D#B())# 5/./(C5, FO)+".1./(+##.&(1-"(5#L%5783)+*%>)/!)89*&)%N:#B/' #: 05/#T)09(5C 50)5#.5#-"! "3#5!)! .1/57#G/, +(1/5#: .5#.#), 3(:##+0#10/#T.D#/, /"01#9((57#@' (# &0!)1: (1/5#09#/' (#"1+"!"+, .3#" (%&)*#5, T)! "5#/' (#' "&')#(+, -./"01# "15"/, /"015#:#. : 01&##/' (: #'/)#9(B#, 1!")5"/D#5D5/(#2(+).3#&0!)1C : (1/#L90)#/' (#: "3"/.)D#.1+##90)#/)."1"12: (#-"! "3#5!)!"-(5N#30-./(+## "1#/' (")#(5T(-/"! (#/())"0)D:#.5#B(33#.5#/' (#T)"! ./(#' "&')#(+, -./"01# "15"/, /"0157#@).+"#01.33D#/' (#" (%&)*#&0!)1: (1/5#.TT)0! (+##5/, +D# T)0&): : (5:#F, /;#)(-1/3D#: 05/#" (%&)*#&0!)1: (1/5#+5-01"/1, (+##/"5# T).-/"-(#"1#9.!0,)#09#.-)"+./"01#5-' (: (57#@' (#" (%&)*#9, 1+##T, F3"-# "15"/, /"015#09# '&')#(+, -./"017#@' "5#9, 1+"1#(^T(-/(+##/0#-0!)# /' (#(+, -./"01.3#T)0!"5"015#:#.##F.5(3"1(#09#)(5(-)' #.1+##.33#9.-"3"/(57#@' (# 5, T)! "5"01#.1+##9, 1+"1	# '&')#(+, -./"01#/')0, &' #'/ (#"1+"!"+, .3# " (%&)*#;# 0B(!)#;#5#: F(++(+##1/0#!.)"0, 5#: (-'.1"5: 5#09#1./"01B'+(# -00)+1./"01#.1+##5, TT0)/q ("/')#/')0, &' #h0"1#"/()C" (%&)*#0)#h0"1/# 2(+).3K" (%&)*#: (-'.1"5: 5#B'"-' #.)(#9,)/')#(^T3."1(+##')()

G"1-(#>JJJ;##+5-0,)5(#01#/' (#9, 1+"1((+5#09# '&')#(+, -./"01#.1+## /' (#)03(5#09#/' (#2(+).3#.1+##" (%&)*#&0!)1: (1/5#.' !(#F((1#5/)01&3D# "193, (1-(+##D#/' (#!)D#3.)&(#"1-)(.5(#"1#/' (#1, : F)#09#5/, +(1/57#@' "5# "5#10/#!"(B(+##.5#/(: TO).)D7#Z--0)+"1&#/0#!)."0, 5#T)(+-"015#/' (# .F503, /(#1, : F)#09#1(B#(1/).1/5#"1#>J>=#5#(^T(-/(+##/0#)(: ."1#: 0)(# 0)#3(55#, 1-' .1&(+#.#.#)(5, 3/#09#.#9,)/')#(#"1-)(.5(#09#/' (#(1/)#D#)./(#.1+##

6Q># \$# [3]'- '#@('-' 3Q)

E1#' '&' ()#(+, -./"01#1#/' (#2(+().3#S(T, F3'-#09#P(): .1D;#/' (#1./"01.3K
)(&"01.3#)(3./"015' "T#"5#": TO)/.1/7#Z1#O! ()!"(B#F00Y#01# ' '&' ()#(+, C
-./"01;#B"+(3D#+ "5)"F, /(+ #FD#/' (#2(+().3# : "1"5/)D#"1#-' .)&(#09# ' '&' ()#
(+, -./"01#L"/5#1.: (#-' .1&(+ #0!)#/' (#D(.)5N;#-3.55"9"(5#/' (#' "5/O)"- .3#
+(! (3OT: (1/#09# ' '&' ()#(+, -./"01#)O: #6HR=#, 1/"3#/' (#6HI J5;#--O)+"1&
/O#-' .1&(5#"1#/' (#1./"01.3K)(&"01.3#)(3./"015' "T#LA("5O/#.1+#2): . ' ("1#
6HHI N# @' ./#' "5/O)D#"5#+"!"+(+#"1/O#/')((#T O)"O+5q nU(- (1/).3"d(+
S(-015/), -/"01\#L6HR=K6H=?N;#nGD5/(: CB"+(#E1"/."!)"(5#\L6H=I K6H?HN#
.1+ #400T O)."! (#2(+().3"5: \#LF(&"11"1&#"1#6H?HN7#G, F5(i, (1/3D;#O/')#
/DT03O&)"(5#09#/' (#1./"01.3K)(&"01.3#)(3./"015' "T# ' .!(# .TT(.)(+;# .1+#
/' (5(#.)(#.350#+ "5-, 55(+#"1#/' (#1(^/#5(-/"0157

U,)"1&#/' (#(.)3D#T05/CB.)#T O)"O+;#2(+().3#)(5T015"F3"/" (5#B O)(#-019"1(+
/O#.#9(B#3(&"53."!)" (#: (.5,) (5;#/O#9"1.1-" .3#5, TTO)/#O)#-"(1/"9"-#)(5(.)-' #
.1+#/O#9, 1+"1&# .-/"!"/" (5#09#-, 3/ ,).3#)(3./"015#B"/' #O/' ()#-0, 1/)"(57
Z3)(. +D#"1#6HRQ;#F(90)(#/' (#90, 1+./"01#09#/' (#2(+().3# S(T, F3'-#09#
P(): .1D;#.#+(-"5"01#B.5# : .+ (#/O#(5/.F3"5' #' (#A O): .1(1/#4019 O)(1-(#
09#/' (#8"1"5/)5#09#4, 3/ ,)(;#3./()#09#/' (#8"1"5/)5#09#*+, -./"01# .1+#
4, 3/ ,).3#Z99.")5#L?<(%&-3)/# +%0*)%E/&)* /# \$2\$, . -%-.<)*&/' (%&)* /-%/&)* /
! \$%&).*)4\$12-D/:)\$<.7825%&i #H#N7#Z9/()#"1"/.33D#5 O!"1&# .5#.#90), : #
09#-0: , , 1"-./"01;#9)O: #/' (#: "+C6H=J5;#/' "5#FO+D#B.5#)(5T015"F3(#9O)#
5(// "1&#&, "+(3"1(5#90)#: "1": , : # -0190): "/D#"1#/' (#(+, -./"01#5D5/(: 7#E9#
.1"55, (#B.5#" (B(+ #5#1(- (55.)3D#5: "3.)#.-)055#/' (#B' O3(#-0, 1/)D# .1+#
"9#"(%)#.#.&)((+, 1.1": 0, 53D;#/' (##H##-0, 3+#T)(T.)(#/' (#)(5T(-!"(#
"1/()C" (%&)*#-01/).-7#* .-' #' "5%&#B.5#FO, 1+#/O#": T3(: (1/#5, -' #.#+(-"C
5"01;#9/()#/'#B.5# : .+ (#3(&.33D#F"1+"1&#FD#/' (#T.)3": (1/#O)#&O! ()1: (1/#
09#/' (#' "5%&# ' .+#"55, (+#.1#O)+()7

U,)"1&#/' "5#T O)"O+;#50: (#O)&.1"d./"015#B O)(#-)(./(+ #01#/' (#2(+().3#
3(! (3;#10/.F3D#/' (#g (5#P(): .1#S(-/O)5# 4019 O)(1-(#LC).&)\$<.78)/
G)D<+*)%D+%0*)%Ei CG#N;#B' "-' #5 O! (+#.5#.#! O-(#09#/' (#' '&' ()#(+, C
-./"01#15"/" /"015;#/' (#P O): .1#Z-.+(: -"*^-' .1&(#G O!)-(#L:)\$<.78)* /
; 75&), -7/ =>785%3/?)* @-7)i ; ; ; : N;#/' (#3.)&(5#O)&.1"d./"01#90)#/' (#

+ "5/) "F, /"O1#O9#T, F3"-#9, 1+5#90)#"1/()1."/O1.3#: OF"3"/D#. 1+#-00T().C
/"O1#F(/B((1# '&')#(+, -./"O1#"15"/, /"O15;#. 1+##/' (#P(): . 1#S(5(.)-' #
Z550-."/O1#L:)\$<.78)/6+*.78\$%3.3),)-.78504l;# .#FO+D#O99"- .33D#5(39C
&O!()1(+##FD#/' (#-0: : , 1"/D#O9#P(): . 1#5-' O3.)5;#B' "-' #)(-('!(+##: O)(#
/' .1#'.39#O9#"5#9, 1+5#9)0: #(.-' #O9#/' (#2(+().3#&O!()1: (1/#.1+##/' (#
&O!()1: (1/5#O9#/' (#' (%&)*7#@' (#: 6A#5, TT0)/(+#, T01#.TT3"-./"O1#"1+"C
!"+, .3#)(5(.)-' #T)Oh(-/5#.1+#)(5(.)-' #1(/B0)Y5;#T)": .)3D#./#, 1"!()5"/(5/

X.)"0, 5#1."/O1.3#-00)+"1."/O1#T). -"-(-5#10/# (^T3"-"/3D#. .++) (55"1&
" '&')#(+, -./"O1#.35O#.99(-/(+##/' (#5(-/O)7#* : T3OD: (1/#-01+"/"O15#
.1+#5.3.)"(5#./#T, F3"-# '&')#(+, -./"O1#"15"/, /"O15#B() (#3.)&(3D##/(/C
: "1(+##FD#1."/O1.3#)(&, 3."/O15#90)#-"! "3#5()!.1/5#.5#B(33#.5#90)#O/' ()#5/.99#
(: T3OD(+##1#/' (#T, F3"-#5(-/O)7

6QR# \$# [3)'-'#@('-' 3Q)

P(): .1D# \$# 6Q=

/' (#2(+).3#&0! ()1: (1/#.1+#/' (#&0! ()1: (1/5#09#/' (#" (%&)*#B0)Y(+
/O&/' ()#01# .#)(&, 3.)#F.5"57#@' (#CG#"1"/".33D# B.5# -0: T05(+FD#.#

6Q?# \$# [3) '- '#@('-' 3Q)

-00)+"1./"01#T)0-(557#A.)3".: (1/5#09#/' (#)(5T(-/'! (#' 5%&#-0, 3+#0! ()), 3(#
5, -' #+(-"5"015#. 1+#(5/. F3"5' #0)#(^T. 1+#T, F3"-#' '&')#(+, -./"01#01#/' (")#
0B1;#F, /#+"+#10/#+0#50#F(-., 5(#/' (D#B0, 3+#90)(&O#/' (#=J#T)#-(1/#
2(+). 3#5, F5"+D7

@' (#2(+). 3#. 1+#/' (#'' (%&)*#&O! ()1: (1/5#5"&1(+#. 1#. &)((: (1/#"1#
6HI J#/O#90): #. #hO"1/#. &(1-D#90)#(+, -./"01. 3#T3. 11"1&Q! \$%&''' (%&)*'
#+, , -. +%01*/! -2&\$%3. 425%\$%3/\$%&/6+*. 78\$%3. 09*&)*\$%3#L! '' #N7#@' (#T,)C
T05(#09#/' (#! '' #

P(): .1D# \$# 60I

L: 0+(3#(^T)": (1/#T)0&).: : (M#B()(#9, 1+(+#' .39#(-' #FD#/' (#2(+().3#
&0! ()1: (1/#.1+##/' (#&0! ()1: (1/#09##/' (#)5T(-/'! (#''5%&7

600# \$# [3) '- '#@('-' 3()

@' (#'' (%&)*;# ' 0B(! ();#h0"1(+##"1#)(+, -"1&#/' (#"193, (1-(#09#/' (#
2(+).3#&O! ()1: (1/7# <0/.F3D;#/' (# #H##-3.": (+#/' (#-00)+ "1./"01#
09#/' (#1(B#G/, +D#S(90): #40: : "55"015#-.33(+90)#FD#/' (#BGA7#@' (#
BGA\5#OFh(-/'! (#' .+FF((1#/0#(15,)(#.#+(&)((#09#5": "3.)"/D#09#-,))"- , 3.#
B"/ "1#1+"!"+ , .3#+ "5-"T3"1(5;#.1+##-)055#+ "5-"T3"1(5;#. : "+##"! ()5(#)(90): #
-01-(T/57#g ' (1#/' (5(#-0: : "55"015#F(&.1#"1#6HI Q;#/' (#&O! ()1: (1/5#
09#/' (#'' (%&)*;#/' (#)(-/0)5\#-019() (1-(# .1+## .-.+(: "-5#B() (#5/01&3D#
) (T)(5(1/(+;#F, /#/' (#2(+).3#&O! ()1: (1/#' .+#013D#.1# .+!"50)D#)03(#
L01#-,))"- , 3.)#-00)+ "1./"01#"1#P(): .1D;#5((#8-CU.1" (3;#P. , D(#.1+##
P, "1#6HQHN7

Z/#/' "5#/' : (;#' "&')#(+, -./"01#"15"/, /"015#B() (#F("1&#(^T(-/(+##/0#
"1-).5(#/' (")#1, : F()#09#5/, +(1/5#B"/' 0, /#.#-0)(5T01+"1&#"1-).5(#"1#
) (50,)-(57#@' (#2(+).3#&O! ()1: (1/#B.5#10#01&()#T)(T.) (+##0#5/01&3D#
5, TT0)/#/' (#(^T.15"01#09#' "&')#(+, -./"017#E1#/' (#6HQJ5;#/' (#1, : F()#
09#5/, +(1/5#)05(#FD#.FO, /#=#JT()#-(1/#B' "3(#/' (#O!).33#T, F3"-#(^T(1+"C

.1+#5/./(#3(! (37E1#/' (#5, : :)#09#6HHJ;#/' (#CG#/00Y#0! ()#/' (#: .h0)#
T03"-D#-00)+"1./"01#)03(#"1#/' (#/).1590): ./"01#09#"&' ()#(+, -./"01#
.1+#)(5(.)-' #"1#/' (#`)\$)'" (%&)*7#2)0: #6HHJ#/#0#6HH>;#/#"55, (+#)(-0: C
: (1+./"015#/' ./#F(-.: (#/' (#)(90): #F3, (T)"1/#: 05/3D#.+.T./"015#/#0#
/' (#5"/, ./"01#"1#/' (#G (5/7#@' (# "&' ()#(+, -./"01#5D5/(: #"1#/' (#P(): .1#
U(: 0-)./"-#S(T, F3"-#' .+#F((1#-(1/).33D#-00)+"1./(+V#/' (#(1)03: (1/#
)./(#' .+#F((1#)(3./"!(3D#30B#;# .1+#.#&(1)0, 5#1, : F)#09#.-.+(: "-#
5/.99#T05"/"015#' .+#3(+/#0#.#)(3./"!(3D#30B#5/, +(1/K5/.99#)./"07#@' (#)03(#
09#)(5(.)-' #./# , 1"!)5"/"(5#' .+#F((1#3": "/(+#"1#.#5D5/(: #' /.#3.)&(3D#
)5/)"-(+)(5(.)-' #/#0#.-.+(: "(5#09#5-(1-(7#@')(#B.5#10#"15"/, /"01.3#
/DT(#5": "3.)#/#0#65788+78.78\$2)%

6HJ# \$# [3) '- '#@('-' 3Q)

Z/#/' (#5.: (#/' : (;#+(F./ (5# .FO, /#/' (#5/) (1&/' 5# .1+#B(.Y1 (55(5#O9#
2(+).3K'' (%&)*#-00T)./'O1#. 1+#-00)+ "1./"O1# "1# ' "&' ()#(+, -./"O1#B())#
(1)&"d(+ #FD#/' (#+(-"5"O1#O9#/' (#2(+).3#. 1+#/' (#'' (%&)*#&O! ()1: (1/5#
/O#)(.3"&1#2(+).3K'' (%&)*#)(3./"O15#. -)O55#.3#T03"-D#5(-/O)5;#O#)(+, -(#
O! ()3.T#. 1+#hO"1#/.5Y57#@' "5#)(5, 3/(+"1# .# -O15"/, /"O1.3#)(!"5"O1#"1#
>JJ?;#B' "- ' #5"&1.33(+#.3: O5/#/' (#(1+#O9#.1#. -/' (#)O3(#O9#2(+).3#&O! C
()1: (1/#"1# " &' ()#(+, -./"O1#T03"-D#LA.5/()1.-Y#>J66FN7

@' (#9")5/#: .hO)#.)(. #O9# " &' ()#(+, -./"O1#)(90): #B.5#&O! ()1.1-(#
.1+#.+: "1"5)/."O1#L5((#` O&, : "3#. 1+#` ,)&"#>J60V#%|91()#>JJ0V#] (' : #
.1+#b.1d(1+0)9#>JJ?V#8.D()#. 1+#z"(&(3(#>JJH7#X.)"O, 5#-0: T01(1/5#
O9#+(/."3(+ #&O! ()1: (1/.3#5, T)! "5"O1#B())(#)!OY(+;#/' (#T0B())#O9#/' (#
, 1"! ()5"/D#: .1.&:(1/#B.5#5/)(1&/' (1(+;#5/.Y(' O3+())#"1!O3! (: (1/#
B.5#)(.3"d(+ #/')O, &' #/' (#(5/.F3"5' : (1/#O9#B+78.78\$2*(<)#LF0.)+5#5((#
b.1&(#>J6JN;# 0)(#(3(: (1/5#O9#(!.3, ./"O1#F(-.: (#: .1+./O)D;#.1+#.#

D(.)5;#.#5D5/(: #09#15/'/, /"01.3#.--)(+ "/./"01#L?J.<), ' ; DD*)&-<)*\$%3M#B.5#
(5/. F3"5' (+#. 301&5"+(;#B' "- ' ;#.--0)+"1&#/0#50: (#OF5())()5\#. 1+#. -/O)5#
!"(B5;#B. 5#3"Y(3D#/0#5, F5"/, /(#T)O&). : : (#.--)(+ "/./"01#"1#/' (#301&#), 17#
E1#. ++ "/"01;#-' .1&(5#B())(#: .+(#"1#.-.+(: "-#-.)()5#. 1+#/' (#)(: , C
1())./"01#09#.-.+(: "-5#L5((#] (' : #>JJ?V#] 0150)/", : #`"3+, 1&5F)"-' /#
g "55(15-' .9/3"- ')#<.-' B, -' 5#>J60V#@("-' 3()#. 1+#`)-' /#>JJ?V7

E1#>JJ0;#/' (#! \$%&).53#(5/. F3"5' (+#. #-0 : : "/((#(^T(-/(+#/O#)(+, -(#
/' (#0"1/#. 1+#O! ()3. TT"1	, 1-/"015#09#/' (#2(+()).3#. 1+#/' (#' (%&)*#&O! C
()1: (1/5#"1#. 33#T03"-D#.)(.57#E1#>JJ?;#/' (#50C-.33(+69&)*52-. , \$.*)0+*, #

6HR# \$# [3) '- ' #@(' - ' 3Q)

G(-01+;#/' ()(#B.5#/' (#=>E)2)%E-%-<-5<-@)7#E1#>JJR;#/' (#2(+().3#
8"1"5/)D#09#*+, -. /"01# . 1+# S(5(.)-' #5, &&(5/(+#5T(-".3#5, TTO)/#90)#
)5(.)-' #.1+#"15"/, /"01.3#+(! (30T: (1/"1#. #3": "/(+ #1, : F()#09#, 1"

6H?# \$# [3)'^- '#@('-' 3()

' '&' ()#(+, -./"01#5D5/(: #.5#T.)/#09#/' (#n' 0: 0&(1("/D#09#3!"1&#-01+"C
/"015#.#.1+#"15/(.+#F(-.: (#.#+)"! ()#90)#+!"! ()5"/D7

@' (#)03(#09#/' (#2(+().3#&0! ()1: (1/#"1#9, 1+"1&#)(90): #.-/"!/"(5#"1#
' '&' ()#(+, -./"01#'.5#F((1#50#5/)01&#"1#)(- (1/#D(.)5#/' ./#"/#F(-.: (#
"1-)(.5"1&3D#5((1#.5#-01/).+ -/"1&#/' (#-015/"', /"01.3#T)O! "5"015#09#>JJ?;#
B' "-' #5(/#/' (#-3(.)#+0: "1.1-(#09#/' (#" (%&)*7#*! (1/, .33D;#10/#013D#/' (#
2(+().3#&0! ()1: (1/#.1+#: .h0)#0)&.1"d./"015# .-/"1#1./"01B"+(#
3(! (3;#5, -' #.5#/' (#BG##L/' (#, : F)(33.#0)&.1"d./"01#09#/' (#"15/"', /"015#09#
' '&' ()#(+, -./"01#"1#P(): .1DN;#F, /#.350#/' (#" (%&)*#&0! ()1: (1/5#-.: (#
/0#/' (#-01-3, 5"01#/' ./#/' (#P(): .1#-015/"', /"01#'.+ #/0#F(#-' .1&(+#.&."1#
/0#3(&"/": ./(#.#5/)01&())03(#09#/' (#2(+().3#3(! (3

E1#U(-(: F()#>J6R;#/' (#P(): .1#P), 1+&(5/(d#B.5#: 0+"9"(+#.&."17#
@' (#)5T(-/"! (#5(-/"015#10B#5.Da

@' (#2(+()./"01#.#1+/' (#" (%&)*#-.1#-00T()./(#01#/' (#F.5"5#09#. &)((C
: (1/5#"1#-.5(5#09#5, T).C)&"01.3#(3(!.1-(#"1#/' (#5, TTO)/#09#C-.)%.7850<#
)5(-)' #.1+#/(.-' "1&7#Z&)((: (1/5#90-, 5"1#" '&' ()#(+, -./"01#1((+#
' (#.TT)O! .3#09#.33#" (%&)*7#@' "5#+0(5#10/#.TT3D#/0#. &)((: (1/5#.FO, /#

6HQ# \$# [3)'-'#@('-' 3Q)

P(): .1D# \$# 6HH

-0: T(15./(#90)#/' (#+(-3"1(#"1#T()#5/, +(1/#(^T(1+"/,)(5#FD#/' (#" (%&)*#
90)#/(. -' "1&#T,)T05(5#. 1+#+"+#10/#-01/) "F, /(#/0#. 1#"1-).(5(#09#(^T(1C
+"/,)(5#"1#. --0)+. 1-(#B"/' #5/, +(1/#&)0B/' 7

@' (#0! () .33#9"1. 1-" .3#50,)-(5#09#' "&' ()# (+, -./"01#"1#P(): .1D#
"1-3, +(#. 350#5, TT0)/#09#)(5(.)-' #9)0: #T"! ./(#50,)-(5;#"1-0: (#90)#
: (+"- .3#5()!"-(5#. 1+#/, "/"01#9((5#./#T)"! ./(#"15"/, /"015#80+())./(#/, "

>JJ# \$# [3)'^- '#@("-' 3Q)

L=70MN#. 1+#(! (1#R76#T()#-(1/#"1#`). 1+(1F,)&q /' (#" 5%,))0, 1+"1&#
` (Q)3"1#LA. 5/()1. -Y#>J66F;#OR6N7

A.)/"- "T./"01#"1# (+, -./"01# .350#!.)"(57# 20)# (^.: T3(;#/' (#T)OTO)C
/"01#09#5-' 003#+)OTO, /5# i , .3"9"(+# /O#5/, +D# ./#, 1"! ()5"/" (5# 0)# ./#3(.5/#
./# 65788+78.78\$2)%#L5223),)-%)/ B+78.78\$2*-0)# . 1+# 65788+78.78\$2*-0);#FO/' #

P(): .1D# \$#>J6

B.5#+ "5-01/"1, (+7#@' (#2(+().3#G/./"5"- .3#_99"- (#-.3-, 3./ (5#/' (#. !().&(#

G(-01+;#/' (#1./"01B"+(#-00)+"1./"01#09#' "&' ()# (+, -./"01#B.5#
.-' (! (+#"1#P(): .1D#T)(+0: "1.1/3D##')0, &' #1/()C'' (%&)*#0)#2(+().3K
'' (%&)*#: (-' .1"5: 57#E1/()C'' (%&)*#: (-' .1"5: 5#5((: #/0#' .!(#T3.D(+
.#: .h0)#)03(#"1# --(55#.1+#.+: "1"5/)./"01;#-,))"- , 3.;# .--)(+/"01;
5/), -/,)(#09#5/, +D#T)0&).: : (5#.1+##+ (&)(57#E1/()C'' (%&)*#-00)+"1./"01#
)(i, ") (5#. #-015(15, 5#09#.33#'' (%&)*#2(+().3K'' (%&)*#-00)+"1./"01#5((: 5#
/O#F(#.#F(//()#OT/"01#"9#)(90): #09#' "&' ()# (+, -./"01#"5#./#5/.Y(#.1+#9, 33#
-015(15, 5#.FO, /#/' (#+"")(-/"015#09#)(90): 5#-0, 3+#10/#F(#(^T(-/(+7#[1+()
/' 05(#-01+"/"015;#.#: .h0)"/D#+(-"5"01#B.5#TO55"F3(#"1#2(+().3K'' (%&)*
-00)+"1./"01#. -/"!"/"(5;#90)#(^.: T3(;#/')0, &' #1 (&O"/."015#"193, (1-(+#
FD#/' (#TO3"/"- .3#T.)/D#O)#T.)/"(5#"1#/' (#: .h0)"/D#TO5/"01#./#2(+().3#3(! (3#
.5#B(33#"1#50: (#'' (%&)*#2(+().3K'' (%&)*#-00T()./"01#" .5#9. -"3"/.(+#5, -' #
)(90): 5;#F, /;# .5#50: (#)(90): 5#)(: ."1(+#-01/)0! ()5".3#0! ()#/' (#D(.)5#
0)#B() (#)(&)(//(+#D(.)5#3./()#FD#.#: .h0)"/D#09#.-/0)5;#/' "5#5/)(1&/' #09#
2(+().3K'' (%&)*

P(): .1D# \$# >J=

90)#%"&' ()#* +, -./"01;#" (%&)*

>J?# \$# [3)'-'#@("-' 3Q)

P(): .1D#-015//, /"01#.&."1#1#>J6R;#1#9.!0,)#09#5, F5/.1/" .3#h0"1/#/.5Y5#
09#/' (#2(+).3#.1+#" (%&)*#&O! ()1: (1/57

P(): .1D# \$# >J1

%7#G-' 0: F,) &#;.1+## [7#@('-' 3();#6>?K6R7J#2).1Y9,)/#.1+## <(B#c0)Y;#<C#a#
4.: T, 5#X()3. &7

P(): .1D7# ` , 1+(5&(5(/dF. /#7>J6R7#P(5(/d#d,)#} 1+(), 1&#+(5#P), 1+&(5(/d(5#
LZ)/"Y(3#H6FNa#X0: #>07#U(d(: F()#>J6R7#! \$%&.)<E125<N58*35%3/TUV[7#@("3#
E#<7#?R7

P(): .1D7# ` , 1+(5: "1"5/()#])#` "3+, 1&#, 1+#g "55(15-' .97#6HI Q.7#6*5,)X+*D/; 7<0/+*
B-38)*'=&\$75<+%7#` 011a#` 8` g 7

q q q 7#6HI QF7#?<*D-\$*4*+12,)/&)./ -2&\$%3..J.-), ./, /! \$%&)..55-7#` 011a#` 8` g 7

P(): .1D7#P(: ("15.: (#g "55(15-' .9/5Y019() (1d7#>J6R7#B+78.78\$245D<TUV[K/!)"-78/<
E\$*/Q, ')<E\$%3/-, N58*/TUV[7#` 011a#Pg] 7

P(): .1D7#G(Y)(./).#.#()G/-1+*&(1#) 019() (1d#+()#] , 3/, 5: "1"5/()#+()#b-1+()#1#+()#
` , 1+(5)(T, F3*Y#U(, /5-' 3.1+;#(+7#>JJ>7#: 5./! -2&\$%3.X.)%./%&)*! \$%&.)4\$12-D/
:)\$<.7825%&/TUVV7#` 011a#] 8] 7

P(): .1D7#G(Y)(./).#.#()G/-1+*&(1#) 019() (1d#+()#] , 3/, 5: "1"5/()#+()#b-1+()#1#+()#
` , 1+(5)(T, F3*Y#U(, /5-' 3.1+;#(+7#>J607#: 5./! -2&\$%3.X.)%./%&)*! \$%&.)4\$12-D/
:)\$<.7825%&/TUVVI TUV7#` 011a#] 8] 7

P(): .1D7# G/./"5/"5-' (# } : /()#+(5# ` , 1+(5# , 1+#+()#b-1+()7#>J607#
! -2&\$%3. @+5\$.1)*78%\$%3/gk+5\$.1)*78%\$%3/&)*! -2&\$%3.<)-2%)8,)^*%#%/ \$%&/
! -2&\$%3.<)-2%)8,)^_&./F)*.+%52/ \$%&/ 6-%5E1)&5*0./I.-/ TUTW7# g "(5F.+(1a#
G/./"5/"5-' (5# ` , 1+(5: /

P(): .1D7#G/./"5/"5-' (5# ` , 1+(5: /#>J6R7#! -2&\$%3.'6-%5E1)*-78/TUV[7#g "(5F.+(1a#
G/./"5/"5-' (5# ` , 1+(5: /

P"(5(Y(:#b7#6HQ17#L#<+8)/6\$-\$*)/I/J/R*5<+%/K/B-38)*'=&\$75<+%/L/<8)/6)&)*52/G)4\$12-7/
+0/A)*, 5%J7#` 011a#E1/()#<./"01(57

q q q 7#>J6>7#n<.-'), 9#., 9#+.5#%0-' 5-', 3).': (1&(5(/d7#C-.)%.7850<.)78#R=#
L6Na#OK6>7

%("+(1' (": ()#Z7#j7#6HHR7#n ["1! ()5"/-(1#": #T03/"5-' (1#S.' : (1a#*1#X()&3('-' #
+()#%0-' 5-', 35D5/((#U(, /5-' 3.1+5#;#j.T.15;#+()#G-' B("d#, 1+##+()# [GZ7#; \$./
F+2<D/\$%&/k)-3).78-78<#` #>=#>OK007

%("3F)011()#] 7;# .1+##P ("5;#87C*7;#(+57#>J6>7#B+78.78\$2*)78<-%/! \$%&/ \$%&/! ("%)%#K/
#+, ,)%5*#RJJ' #(+/"017#%("+(3F()&a#47#27#8] 33()7

%("1d(;#G7#>J6J7#n20)5-' , 1&59*)+(), 1&("#1#U(, /5-' 3.1+7#E1#B5%&I\$78/
C-.)%.7850.4+2<D;#(+/(+#FD#U7#G": 01;#Z7#] 1"(;# .1+#G7#%0)1CF05/(3;#6?>K6I =#
g "(5F.+(1a#XG#X()3.])#God".3B"55(15-' .9/(17

%0' 1;#%7Cg 7#>J6J7#nZ, •), 1"!) (5"/-)(#20)5-' , 1&5-' 1"- /, 1&(17#E1#B5%&I\$78/
C-.)%.7850.4+2<D;#(+/(+#FD#U7#G": 01;#Z7#] 1"(;# .1+#G7#%0)1C` 05/(3;#R=IKRI I7#
g "(5F.+(1a#XG#X()3.])#God".3B"55(15-' .9/(17

%0)1C` 05/(3;#G7#>JJQ7#n*^d(33(1d#, 1+##U*99() (1d`(), 1&7#E1#B+78.78\$2)/, /C5%&)/2K/
: -)/Q%&@)*.-<(/<52./6+*78\$%3.3)3)%5%&#(+/(+FD#` 7# 87#] (' : ;#6R=K6=R7#
2).1Y9,)/#.1+## <(B#c0)Y;#<C#a#4.: T, 5#X()3. &7

%, F()#b7;#(+7#6HQ07#; \$I-2&\$%3/\$%&/?+E-52.5<+%/L/&)*B+78.78\$2);#X037#6J7#G/, //&.)a#
] 3(/C40//.#L*1dY30T-+*(#*)d'(' , 1&5B"55(15-' .9/N7

%|91()#] 7#>JJ07#nPO! ()1.1-(# .1+##2, 1+*1	#%&' ()#*+, -. /"01#"1#P(): .1D7#
B-38)*'=&\$75<+%/L/&=#\$+4)#>Q#L>#a#6R=K6?07

>J0# \$# [3)'^- '#@("-' 3()

% |/' ();# _7#>J6J7# g+%/ &)^/ #+2)3-52-<(</ E\$/ B-)^5*78-)S/ =-%) / ; %52J.) / @+%/ ^ `)X/

b("F9)"(+;#G7;#(+7#>J6J7# : -)/=>E)22)%E-%<5<@)K/ kX-.78)%I-25%E/ %&/ F)*.4)D<@)#7#
 2).1Y9,)/#.1+#<(B#c0)Y;#<ca#4.: T, 5#X()3.&7

8.D()#A7#.#1+#Z"(&3(:#27#>JJH7#n40: T(/"01;#Z, /010: D#.#1+#<(B#@' "1Y"1&a#
 @).1590: ."01#09%#'&')#*+, -./"01#"1#2(+().3#P(): .1D\7#B-38)*/=8\$75<+%/
 H5%53),)%<5%/F+2-7J#>6#L>Na#6K>J7

8.D1/d;#S7;#(+7#6HHR7#; \$01*\$78/%&/G)0+*, /@+%/+1)%K/\.&)\$<78)/Q%-@)*.<(z)%/-, /
 R*5%.0+*, 5<+%.4+E)..7#2).1Y9,)/#.1+#<(B#c0)Y;#<ca#4.: T, 5#X()3.&7

8-CU.1"(3#_#;#P., D(:#A7;#.#1+#P, "1;#j7#6HQH7#nPO! ()1: (1/#.#1+#4,))"- , 3, : #
 E110!./"01#"1#/' (#2(+().3#S(T, F3"-#09#P(): .1D\7#E1#A+@)*%,)%52/?<'5<3-).f5%&/
 L%#+@5<+%/-%/B-38)*/=8\$75<+%;#(+/(+#FD#27#Z7#! .1#X, &' /;#6>=K6R>7#b01+01a#
 j7#] "1&53(D7

8.*3(#%#7#6HH>7#nP(): .1#U(: 0-)./"-#S(T, F3"-7#E1#R8)/=#7J72+4)&-5/+0/B-38)*/
 =8\$75<+%;#(+/(+#FD# 7#S7#43.)Y#.#1+#P7#<(! (;#>06K>RJ7#_ ^90)+a#A)&.: 01#
 A)(557

_ *4U7#>J6J7#B-38)*/=8\$75<+%/-%/G)3-+%52/5%&/M-<J/ :)@)2+4,)%&K/!)^2-%_ /A)*, 5%J7#
 A.)"5a#_ *4U7

q q q 7#>J6>7#=#8\$75<+%/5<5/A25%7)K/\=M: /=8\$75<+%/L%&-75<+*.TUVT7#A.)"5a#_ *4U7
 _ ('3():#47#6HQH7#B+78.78\$2)%<X-7D2\$%3/-%/&)*! \$%&).*)4\$12-D/:)\$<.7825%&/.)<-VZ[W7#
 2).1Y9,)/#.1+#<(B#c0)Y;#<ca#4.: T, 5#X()3.&7

q q q 7#>JJJ7#?55-2-78)/B+78.78\$245%\$%3/-%/ :)\$<.7825%&7#< (, B" (+a#b, -' /O)' .#1+7
 _ ('3():#47;#.#1+#@("-' 3():# [7#6HQH7#n4'.1&"1&#ZTT)0.-' (5#/O#A3.11"1&#"1#%"&')#
 +, -./"01#"1#/' (#2(+().3#S(T, F3"-#09#P(): .1D\7#B-38)/=8\$75<+%/-%/=#*+4)#
 H#L6Na#60K>J7

_ 1(5"1":#47#>JJ>7#6)&)*52-. /5%&/'" (%&)*! ; \$<+%, JK/R8)/B-38)*/=8\$75<+%/F+2-7J/
 ^>X+*"D/-%/8/6)&)*52/G)4\$12-7/+WA)*, 5%J7#<(B#c0)Y#.#1+#b01+01a#S0, /3(+&(#
 2.3: ()

A.5/()1.-Y;#A7#>J66.7#nU" (#9*+().3(#] 0: T(/(1d0)+1, 1&#" : #+(, /5-' (1#
 %0-' 5-' , 3B(5(1a#*1/B"-Y3, 1&#, 1+#G/./, 5\7#E1#B+78.78\$2)%/578/&)*/
 69&)*52-. , \$)0+*, ;#(+/(+#FD#A7#A.5/()1.-Y;#>6K?J7#b("Td"&a#ZY.+("5-' (#
 X()3.&5.15/.3/7

@("-' 3();# [7#6HH>7#n%'&' ()#*+, -. /"01#"1#2(+().3#GD5/(: 5a#P(): .1D\7#E1#B-38)* /
=&\$75<+%/-%/6)&)*52/?J.<), .;#(+)/(+#FD#U7#`)0B1;#A7#4.d.3'5#.1+#P7#].5: "1;#
6R6K6?Q7#] "1&5/01a# F , ((1\5# [1"! ()5"/D;#E15"/, /(#09#E1/Q)&O! ()1: (1/.3#
S(3."0157

q q q 7#>JJ?7#m%0-' 5-' , 35D5/(: #K#G/, +, : #K#Z)F(" /5: .)Y/a#U"(#3('), 1+#5/, +"(1FC
(dO&(1(#%0-' 5-' , 3T03" /"Y#+(5#` , 1+(5: "1"5/()"; : 5\7#E1#: 5./C-..)% , -%-.<)*\$, ;#
(+)/(+#FD#A7#g ("1&.)/#.1+#<7#47#@., F()/;#ORI K0117#g ("3()5B"5/a#X(3F)|-Y#
g "55(15-' .9/7

q q q 7#>JJQ7#ng' ()(#G' .33# /' (#801(D#40: (#9)0: r#A, F3"-3D#! ()5, 5#A)! ./(3D#
2"1.1-(+#%&' ()#*+, -. /"01\7#E1#!)J+%&/TUVUK/F*+*-<)./5%&/M852)%3)./0*/B-38)* /
=&\$75<+%/-%/<8/)></:)75&);#(+)/(+#FD#87#] (30;#?=KH=7#` 011a#b(: : (157

q q q 7#>J667#mP(): .1D#%0B#4' .1&"1&#P0! ()1.1-(# .1+#8.1. &(: (1/#Z99(-/5#
' (#X"(B5# .1+#g 0)Y#09#/' (#Z-.+(: "-#A)09(55"01\7#E1#M85%3-%3/A+@)%5%7)/
5%&/H5%53),)%</-%/B-38)* /=&\$75<+%/R8)/F)*.4)7<@)/+0/<8)/; 75&), J;#(+)/(+#FD#
g 7#b0-Y(;#g 7#] 7#4, : : "1&5;#.1+#U7#2"5' ();#>>0K>R67#U0)+(-' /a#GT)"1&()7

q q q 7#>J6R7# B+78.78\$2.J.<),)/ \$%&/N\$5%<<5<@'.<.\$D<\$*)22)/ B+78.78\$24+2<-DK/
: -00)%E-)*\$3./! +2+3%5'F+E).._/ =>E)22)%E-%<<5<@)/ \$%&/ &-)/ 6+23)%7# 8 | 15/()a#
g .^: .117

@("-' 3();# [7;#.1+#`).-' /;#_7#>JJ?7#&#, 2.1t#•1#6S0#e)•q Uy t E V C J 4 [J 3 j 4 R 3 @ f A C q b a f a h i

E1#/' (#(D(5#09#: 05/#T(OT3(;#/' (#'1/)0+, -/'01#09#. #1./"01.3#5D5/(: #09#
(+, -./"01#B0, 3+#013D#' .! (#.#T05"/"! (#": T.-/#01#/' (#5, FC/()/".)D#3(! (3#
09#(+, -./"01;#B')(#/' (#.F5(1-(#09#. +(i, ./(#0! ()).33#-00)+"1./"01#"5#
-3(.).3D#(!"+(1/7#2(B#/' 0, &' /#09#/' (#<./"01.3#A3.1#.#5#) (3(!.1/#90)#' "&' ()#
(+, -./"01;#T)": .)"3D#F(-., 5(#"/#B.#5#F(3"(! (+#/' ./#01#/' "5#3(! (3#/' (#
-0: T(/"1D5/(: 5#099() (+#! .3, .F3(#-0: T3(: (1/.)"/"(57#%0B(! ();#/' "5#
-' .T/()#.)&, (5#/' ./#/' (#/)"T.)"/(#9(+().3#9)..: (BO)Y#'.5#'.+#1(&./"! (#

>6R# \$# S0F()/#*!.1#X() ' "1(#.1+#bD5#87#X7#U.1/.5

-(1/).3"d./"O1#+(5T"/(#L.1+#F(-.,5(#09N#: .h0#)(&"O1.3#+5T.)"/"(5#.1+#
/())"/O)".3#9).&:(1/./"O17#@' (#: O1.)-' D# B.5#0!()/)'0B1#"1#60QH#
.1+#/' (#:"3"/.)D#&O!()1:(1/#/' ./#)(T3.-(+##"/#(5/.F3"5' (+#!".#. #1(B#
4015"/',/"O1#)./"9"(+"1#6QH6;#. #9(+).3#5D5/(: #09#&O!()1.1-(#B" "- #
B.5;#./#3(.5/#05/(15"F3D;#T)(5"+(1/"3#.1+++(: 0-)./"-#1#1./,)(7#`).d"3#` .5#
: ."1/."1(+##/5#9(+).3#9).: (B0)Y#(!())#5"1-(;#F,/#B"/' #!.)D"1&#+(&)((5#
09#-(1/).3"d./"O1# .1+++(-(1/).3"d./"O1#0!())#/" : (#L405/.#>J6JN7

` (/B((1#6QH6#.1+#6H0J;#+(-(1/).3"d./"O1#T)!. "3(+7#@' (#50C-.33(+
2")5/#S(T,F3"-#B.5#/OTT3(+##"1#6H0J;#.1+#/' (#)&:(#/' ./#)(T3.-(+##/
.+OT/(+##. #-(1/).3"d(+#.TT)O.-' ;#-,3: "1./"1&#"1#/' (#(5/.F3"5': (1/#09#
.#+ "-./O)5" T#"1#6H017#U(: 0-).-D#B.5#(5/O)(+##"1#6HR?#.1+#. #1(B#
4015"/',/"O1#5, --(559,33D#. +!.1-(+##/' (#10/"O1#09#)(3./!(#T.)"/D#F(/B((1#
/' (#5/./ (5#.1+#/' (#9(+).3#&O!()1:(1/7#Z#: 0! (: (1/#O#/' (#3(9/#"1#/' (#
(.)3D#6H?J5#T)(-"T"/./(+##. #: "3"/.)D#/.Y(O!())#(5,3/"1&#"1#/' (#:# T05"/"O1#
09#5/O1#&#-(1/).3"d./"O17#Z#+(: 0-)./"-#)(5,)&(1-(#"1#/' (#:# "+C6HQJ5#3(+
/O#/' (#2(+).3#4015"/',/"O1#09#6HQQ;#B" "-';#9O)#/' (#9")5/#/" : (;#)(-O&C
1"d(+#: ,1"-T.3"/"(5#.5#9(+).3#(1/"/'(5;#B"/' #"1+(T(1+(1/#TOB)5#.1+#

`).d"3# \$# >6=

' .! (#)(3./"! (3D#3(55#TOB()#/' .1#/' (")#-0, 1/()T.) /5#1#: .1D#9(+().3C/DT(#
-0, 1/) "(5;#5, -' #.5#P(): .1D#.1+#/' (# [1"/(+#G./.(5#LZf) f-"0#>J6JN7#Z/#
/' (#5.: (#": (:#: 05/#: , 1"-T.3"/"(5#.) (#)(3./"! (3D#B(.Y#9)0: #(-010: "-#
.1+#TO3"/"- .3#5/.1+TO"1/5;#)(: ."1"1&#' "&' 3D#+(T(1+(1/#01#/' (#5/./(#.1+#
9(+().3#5T' ()(5#90)#9"1.1-".3#5, TTO)/#.1+#TO3"-D#3(.+())5' "T7

>6?# \$# S0F()/#*!.1#X()' "1(#.1+#bD5#87#X7#U.1/.5

@' (#6HQQ#4015"/, /"01#5/./(5#/'. /#(+, -./"01#"5#. #T, F3"-#&00+7#g ' (1#
099)(+#FD#&O! ()1: (1/;#B' ./(! ()#/' (#5T' ()(:#"/#-015"/, /(5#.#T, F3"-#
5()!"-(#L`).5"3#6HQQN7#@', 5;#/' (#9(+().3#&O! ()1: (1/"5#)(5T015"F3(#90)#
(+, -./"01#"1#/(): 5#O9#(5/.F3"5' "1
): 5#.1+##+")(-/"! (5#90)#/' (#(1/")(
1./"017#G, -' #+ "-./.(5#: , 5/#F(#-O: T3"(+#B"/' #FD#.33#9(+().3#(1/"' (57#g "/' #
) (5T(-/#O#5, FC/(/)".)D#(+, -./"01;#"1#`).d"3#` .5"-#*+, -./"01;#/' (#6HQQ#

`).d"3# \$# >61

@' (# + (- (1/).3"d./"01#/' ./# -' .). -/())"d(5# F.5"-# (+, -./"01#"5# 10/#
' "5/0)"-.33D#)(3(!.1/#/0#/' (#/()/".)D#3(! (37^R

>6Q# \$# S0F()/#*!.1#X()' "1(#.1+#bD5#87#X7#U.1/.5

.)0, 1+#07=#T()#-(1/#09#/'(#-0, 1/)D\5#TOT, 3./"017⁰#_!().33#' '&'()#
 (+, -./"01#"5#+0: "1./(+##FD#/'(#T)"!./(#5(-/0);#B"/' #0!()#Q=#T()#-(1/#
 09#/'(#"15"/, /"015#.1+#.FO, /#10#T()#-(1/#09#.33#' '&'()#(+, -./"01#
 (1)03((57#_9#/' 05(#(1)033(+#"1#/'(#T, F3"-#5(-/0);#B' "-' #5#-0: T05(+
 09#0JJ#"15"/, /"015#.1+#>76#: "33"01#5/, +(1/5;#0#T()#-(1/#.)(#"1#9(+).3#
 (5/.F3"5': (1/5;#0J#T()#-(1/#.)(#"1#5/./(#(1"/"5#.1+#61#T()#-(1/#5/, +D#
 "1#: , 1"-T.3#, 1"/57#Z5#90)#, 1"!()5"/"5;#/'()#.#)(#6H=#09#/'(: 7#g"/"1#
 /'(#T, F3"-#5T'());#/'(#+0: "1.1/#90)-(#5#/'(#9(+).3#&0!()1: (1/#B' "-' #
 /')0, &'#/'(#8"1"5/)D#09#*+, -./"01#0T()./(5#?0#, 1"!()5"/"5;#+5/)F, /(+
 50#/'./#.#3(.5/#01(#, 1"!()5"/D#"5#30-./(+#"1#(!)D#5/./(#09#/'(#, 1"017#
 G./(#, 1"!()5"/"5#.#)(#-.,))(1/3D#01#"1#1, : F)#.1+#(^"5/#"1#>6#09#/'(#
 >?# `).d"3".1#5/./(57#8, 1"-T.3#"15"/, /"015#.#)(#)(3./!"(3D#"15"&1"9"-1/#
 "1#1, : F)#.1+#.TT(.)/0#F(#'(.+(+##0B.)+5#(^"1-/"017#@'(#T)"!./(#
 , 1"!()5"/"5#"1-3, +(#61#)(3"&"0, 5#"15"/, /"015#.1+#'.39#.#+Od(1#09#0/'()#
 ' '&'#T)(5/"&(#(5/.F3"5': (1/5;#F, /#: 05/#09#/'(#T)"!./(#"15"/, /"015#09#



Z#Y(D#-' .).-/()"5"-#09#' '&' ()#(+, -./"01#"1#`).d"3#"5#"/5#(^).0)+`C
 1.)D#&)0B/' #'1#)(- (1/#D(.57#@' (#1, : F()#09#T)0&). : (#099() "1&5#' .5#
 "1-)(.5(+##/(1903+#5"1-(#6HQR;#9)0: #0;QJJ#/#0#?;>JJ#"1#6HH=#/#0#6?=-JJ#
 "1#>JJ0;#.1+#+0, F3(+#. &."1#/#0#0>;JJ#"1#>J607#g')(.5#: 05/#09#/' (#
 &)0B/' #'1#/' (#3.5/#+(-.+ (5#09#/' (#/B(1/"/' #- (1/,)D#B.5#-01-(1/)./(+
 "1#/' (#T)"!./(#5(-/0)q T)"!./(#5(-/0)#T)0&). : (5#"1-)(.5(+##9)0: #
 =?#T()#-(1/"1#6HH=#/#0#.#' '&' #09# l>#T()#-(1/"1#>JJl q/' (#T, F3"-#
 5(-/0)#' .5#: .+(#.#: .h0)#-01/)F, /"01#/#0#0! ().33#(^T.15"01#"1#)(- (1/#
 D(.)576# @' "5#&)0B/' #'5#-305(3D#)(3./(+##/0#.#9(+).3#, 1"! (05"/D#)(90): #
 "1"/.!" (;Y10B1#.5#S* [<E;#B' "-' #B.5#: T3:(1/(+##FD#/' (#8"1"5/)D#
 09#*+, -./"01#"1#>JJl7#@' "5#"1"/.!"! (#50, &' /#/#0#+0, F3(#9(+).3#' '&' ()#
 (+, -./"01#(1)03: (1/#FD#>J6R766#8(.1B' "3(;#/' (#T)"!./(#5(-/0)#' .5#.350#
 /(1+(+##/0#(^T.1+;6>#F, /#10/#.5#+0: "1.1/3D#.5#F(90);#((1#/' 0, &' #"/#
 '.5#F(1(9"//(+##)0: ##/B0#"1"/.!"! (5#9"1.1-(+##FD#/' (#9(+).3#&0! ()1: (1/##
 __1(#"1! 03! (5#&)(./3D#(^T.1+"1&#/' (#2, 1+##90)#G/, +(1/#2"1.1-"1&#L2E*GN;#
 B' "-' # (1.F3(5#5/, +(1/5#./#T)"!./(#"15"/, /"015#/#0#F0)0B#: 01(D#, 1+())
 9.!0,).F3(#-01+"/"015#/#0#T.D#90)#/, /"01#.1+##0/' ()#(^T(15(5760#@' (#

>>R# \$# S0F()/#*!.1#X()' "1(#.1+#bD5#87#X7#U.1/.5

O/' ();#)(9())(+#/O#.5#/' (#[1"! ()5"/D#90)#Z33#A)O&).: 5#LA)O[1"N;#B."! (5#
9(+().3#/.^(5#90)#T)"!./(#"15"/,/"O15#/' ./#T)O!"+(#9,33#/,/"O1#&).1/5#/O#./#
3(.5/#6J#T)#-(1/#O9#/' (")#5/,+(1/#FO+"(57^{6R}#@.Y(1#/O&(/' ());#' (5(#/BO#
T)O&).: : (5#5())! (#.FO,/#.#/' "+#O9#/' (#T)"!./(#5(-/O)#5/,+(1/#FO+D#.1+#
)T)(5(1/#.#Y(D#"1-(1/"! (#90)#/' (#/).1590): ./"O1#O9#1O1CT)O9"/#(1/"/(5#
"1/O#9O)CT)O9"/#(5/.F3"5' : (1/5#L8†^": O#>J60N7⁶⁼

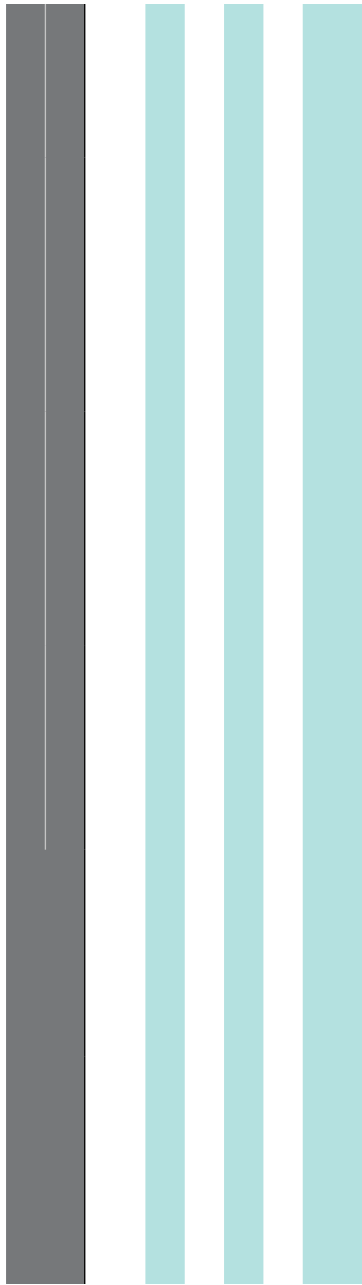
E1#5T"/(#O9#).T"+#(^T.15"O1;#'OB(!());#1(/#'"&'())#(+,-./"O1#
(1)O3:(1/#)./(5#)(: ."1#30B#FD#"1/(O)1."O1.3#5/.1+.)+5;#)"5"1)O: #
667J#T())#-(1/"1#>JJO#/O#h,5/#6?7=#T())#-(1/"1#>J607^{6?}#8O)(O!());#(1)O3C
:(1/5#.)#5(&:(1/(+#.--O)+"1&#/O#(-O1O: "-;#).-.3#.1+#&(O&).T'"-#
3"1(57#@'(#1/(#(1)O3:(1/#)./(#9O)#5/,+(1/5#"1#/' (#OT#"1-O:(#i,.)/"3(#"5#

`).d"3\$ \$#>>=

[1+(O&).+, ./(#5/, +(1/5# (1)033(+#"1#/' (# -0, 1/)D\5#>;RJJ# " &' (O) # (+, -./"01#"15"/, /"015#.) (#+"5/)F, /(+#: 01�>;JJ#-0,)5(5#09#5/, +D7⁶¹# G3'&' /3D#0! (O)#' .39#L=?MN#5/, +D#"1#F. -' (30)#T)O&). : (5;#B' (O). 5#/' (#)(: . "1+(O)#T.)/" -"T. /(#"1# ('/' (O)#3"- (1-. /, .) #L/(-' (O)#/). "1"1&N#-0,)5(5# L>=MN#0)#/(-' 1030&" - .3# 099(O)"1&5#L6HMN7⁶⁰# 40,)5(5#09#5/, +D# . /#/' (# , 1+(O&).+, ./(#3(! (3#.) (#T)(+O: "1. 1/3D#T)09(55"01. 3#"1#1. /,) (# . 1+#! .)D# 9)0: #/')((#/#0#5^#D(.)5#"1#3(1&/' 7#@' (D# . 350#! .)D#B"/' #) (5T(-/#0#/' (# 50-"O(-010: "-#3(! (3#09#/' (")#5/, +(1/5;#"1# --0)+. 1-(#B"/' #+"99(O) (1/" . 35# "1#T)O&). : (#T) (5/"&(7⁶⁴# Z5#"1+" - . /(+#"1#@. F3(#?7>;#/' (#+"5/)F, /"01# 09# (1)03: (1/# --0)+"1&#/#0#T)O&). : (#/DT(#FD#) (&"01#90330B5#/' (# +(: O&). T' "-. 1+#(-010: "-#T. //()15#+5-, 55(+#"1#/' (#5(-01+#5(-/"01;# B"/' # .FO, /# =J#T(O)#-(1/#09# . 33#(1/() "1/, +(1/5# . 1+#. TT)0^": . / (3D# ?J#T(O)#-(1/#09#/' 05(#5/, +D"1&#"1#/' (-' 1030&" - . 3#9#(3+5#) (5+"1&#"1#/' (# "1+, 5/)". 3"d(+GO, /' (. 5/7

G"1-(#/' (# (.)3D#>JJJ5;#"15"/, /"015# ' ! (#F((1#T(O): "//(+#/O#099(O) # , 1+(O&).+, ./(#T)O&). : (5#!" . #+"5/. 1-(#3(.)1"1&;# . #: 0+. 3"/D#/' . /# (1-0: T. 55(5# .FO, /#6?#T(O)#-(1/#09# , 1+(O&).+, ./(#5/, +(1/57#805/#09#/' (5(# 013"1(#+"5/. 1-(#T)O&). : (5#.) (#('/' (O)#3"- (1-. /, .) #LRIMN#0)#/(-' 1030&"C - . 3#LORMN#"1#1. /,) (7#U"5/. 1-(#(+, -./"01#"5#0! (O)B' (3: "1&3D#.#T)! . / (# 5(-/O)#T' (10: (101;# .5#T)! . / (#"15"/, /"015# --0, 1/#90)#Q?#T(O)#-(1/#09# . 33#+5/. 1-(#(+, -./"01#(1)03((5#L`). 5"3#>J60N7

-(3: ⁶⁴6/4+(1/0')#)=10"5"5#09#"1+0(5#7)3+0#51(99. /5#4/10#T))#(61/#09#/' 05(4: #)-510(O' /#) (1)033(+#.) (#>=#D(.)5#09# . &(#0)#010. 8 (#)-30(. .) 1-8(3) (# . (1/#))#>B: (10# . ?03# . (1/#B)#Y



Z3/' 0, &' #: 05/#5/, +(1/5#5/, +D#.#/' (#, 1+()&).+, ./(#3(! (3#LHIMN;#
/')(#.)(#.FO, /#>JJ;JJJ#5/, +(1/5#(1)033(+.#/' (#&).+, ./(#3(! (3#B"/' #
/' 05(#B0)Y"1&#/O#-0: T3(/#/' (#.-.+(: "-#+0-/O)./(#LA' UN#)(T)(5(1/"1&#
.FO, /#01(C/' ")#09#/' ./#/O/.37>J#E1#-01/).5/#O#, 1+()&).+, ./(#(1)03: (1/;
&).+, ./(#(1)03: (1/"5#-01-(1/)./(+##1#T, F3"-#15"/', /"015#LQ6MN;#B"/' #
9(+).3#.1+#5/./(#, 1"! ()5"/" (5#)(5T015"F3(#90)#=#IT)#-(1/#.1+#>R#T)#-(1/#
09#/' (#O/.3;#)(5T(-/"! (3D7#@' (#)(3./"!(#T)(+0: "1.1-(#09#9(+).3#, 1"! ()C
5"/D#&).+, ./(#T)O&).: : (5#5#(!"+(1/#!".#0/' ()#"1+-. /O)5#.5#B(33;#5, -' #
.5#/' (#T)- (1/.&(#09#5/, +(1/5#L=IMN;#/' (#T)- (1/.&(#09#T)09(550)5#L=HMN#
.1+#/' (#T)- (1/.&(#09#9(+).3#5/, +(1/#5-' 03.)5' "T5#.B.)+(+#L??MN7#E1#
/(): 5#09#)(&"01.3#+5/"F, /"01;#&).+, ./(#3(! (3#099()"1&5#.)(#"1#.--0)+C
.1-(#B"/' #TOT, 3./"01#.1+#B(.3/' #+"99)(1/" .35;#B"/' #/' (#GO, /' (.5/#.1+#
GO, /' #)(5T015"F3(#90)#=Q#T)#-(1/#.1+#>R#T)#-(1/#09#.33#T)O&).: : (5;#
)(5T(-/"! (3D7#%0B(! ();#9#013D#! ()D#/OT#/"()#T)O&).: : (5#.)(#-015"+() (+;#

>>Q# \$# S0F(0)/#*!.1#X() "1(#.1+#bD5#87#X7#U.1/.5

"15"/, /"O15#L=RMN#/' .1#.#T)"!./(#(5/.F3"5' : (1/5#L6QMN7#Z/#T, F3"-#
"15"/, /"O15#;: 05/#T)O9(550)5#LQ6MN#.)(#9, 33#/' : (#B'/' #' (#T)- (1./(&#
5,)T.55"1&#HJ#T)#-(1/#90)#/' (#9(+).3# "15"/, /"O15#@' (#-0)(5T01+"1&#
9&,) (5#.) (#1=#T)#-(1/#90)#5'./(# "15"/, /"O15#;OJ#T)#-(1/#90)#: , 1"-T.3#
(1/"(5#.1+#>=#T)#-(1/#90)#/' (#T)"!./(#5(-/0)7#<0/#5,)T)"5"1&3D#/' (#
T)- (1./(&#O9#T)O9(550)5# O3+"1&#. #A' U#!.)" (5#10/#O13D#FD#DT(#O9#"15/"C
/, /"O1#F, /#.350#.-0)+"1&#/#O#(&"O1#;+"5)"F, /(+ #5": "3.)3D#.5#O/' ()#"1+"C
-/0)5#Z3/' O, &' #' ()(#5#50: (#)3./"O1#F(/B((1#)(&"O1.3#+5)"F, /"O1#
O9#" '&' 3D#i , '3"9(+ #T)O9(550)5#.1+#-015(i, (1/#A' U#0, /T, /;#/' (#3./())#
"5#: , -' #: 0)(#-01-(1)/.(+ #/' .1#/' (#90): ()q "1#>J60;#?>#T)#-(1/#
O9# +0-/0)./(5#B())(#-019())(+ # "1#/' (#GO, /' (.5#)(&"O1#L@0+05#T(3.#
*+, -. †, O#>J6=17

g "/ "1#T, F3"-#, 1!" ()5"/" (5;#: .h0)#T0B())(5/5#B'/' #' (#S(-/0);#/' (#
"15"/, /"O1\5#- ' " (9# .+: "1"5)/.0)7#20)#9(+).3#, 1!" ()5"/" (5;#/' (#) (-/0)"#5#
- ' O5(1#FD#/' (#T)(5'+(1/#O9#`).d"3#9)O: #.#3"5/#O9#/')(#1.: (5#5, F: //"(+
FD#/' (# "15"/, /"O1#.#9/)#-019": ./"O1#FD#/' (#! O/ (#O9#.#) (T)(5(1./!" (#(3(-C
/0).3#-033(&7#@' (#5"/, ./"O1#5#5": "3.)#B'/' #' (5T(-/#O#5'./(#, 1!" ()5"/" (5;#
(^- (T/#/' ./#/#5#/' (#&O!) ()10)#B' O#5(3(-/5#/' (#) (-/0)5#9)O: #3"5/5#+ (! (3C
OT(+ #/')O, &' #T.)/"-T./0)D#T)O-(55(5#.#/' (# "15"/, /"O1.3#3(! (37#E1#/' (#
-5(#O9#/' (#AO1/"9"-3#4./' O3"-# [1!" ()5"/" (5;#/' (#3"5/#O9#-.1+"+. / (5#5#5, FC
: //"(+ #/O#/' (#- ')- ' #, /' O)"D#B' O#. -/5#.#5#/' (#, 1!" ()5"/"D\5#-' .1-(330)7#
Z/#101C+(10: "1./"O1.3#T)"!./(# "15"/, /"O15#;#Y(D#+(-"5"O15#.) (#, 5, .33D#
: .+(#FD#.#F0.)+ #O9#+")(-/0)5#.1+##: T3: (1/(+ #FD#/#B0#OT#(^(-, /!" (5;#
B'/' #.#-' "(9#(^(-, /!" (#O99-)#L4 * __N#'.1+3"1&#.+: "1"5)/."! (#: ./(())5#
.1+#.#) (-/0)#(5T015"F3(#90)#.-+(: "-#55, (5#LA3.1Y#.#1+X()) "1(#>JJ>N7

20)#/' (#T,)T05(5#O9#"&' ()#(+, -./"O1#)(&, 3./"O1#;1./"O1.3#3(&"53./"O1#
(5/.F3"5' (5#/#B0#5D5/(: 5q /' (#2(+).3#GD5/(: ;#-0: T)"5(+ #O9#.33#9(+).3#
.1+#T)"!./(# "15"/, /"O15#;.1+#/' (#G/./(#GD5/(: ;#: .+(#T, #O9#.33#5'./(#.1+#
: , 1"-T.3# '&' ()#(+, -./"O1#(5/.F3"5' : (1/5#L`).5"3#6HH?N7#@' , 5#B' ()(5#
9(+).3"5: # "1#`).d"3#5#/'(T.)"//(:#/#5#O13D#F" T.)"//(#B'/' #) (5T(-/#O#/' (#
)(&, 3./"O1#O9#"&' ()#(+, -./"O17#@' "5#+(/O): "1./"O1#(: .1./ (5#9)O: #/B0#
-015+)./"O157#2")5;#/' (#90): , 3./0)5#O9#/' (#6HH?#<./"O1.3#*+, -./"O1#
b.B#5/01&3D#. +!0-./(+ #+(- (1)/.3"d"1B)#3!(35#O9#(+, -./"O1#/#O#
/' (#: , 1"-T.3#3!(3#.1+#++ #10/#B.1/#/O#+!) ()#: , 1"-T.3#./ (1/"O1#/#O#

`).d"3# \$# >>H

/' (#/()/".)D#3(! (37#G(-01+;#5"1-(#' (D#, 1+()5/00+#.3#(+, -."/01#/O#F(#.#
T, F3"-#&00+#.1+#B()(#-01-())1(+#.FO, /#T)"! ./(#5(-/O)#i, .3"/D#-01/)03;#
/' (D#50, &' /#/O# (15,)(#/' ./#T)"! ./(#/()/".)D# (+, -."/01# (5/.F3"5' : (1/5#
B()(#-305(3D#: 01"/O)(+FD#T, F3"-#. , /' 0)"!/"(57

20)#FO/' #9(+().3#.1+#5/./(#5D5/(: 5;#)(&, 3."/01#5#/' (#)(5T015"F"3"/D#O9#
.#FO.)+#O9#(+, -."/01#L<."/01.3#` 0.)+WG/./(#` 0.)+N#.1+#/' (#+(5"&1./(+ #

>0J# \$# S0F()/#*!.1#XQ)' "1(#.1+#bD5#87#X7#U.1/.5

*! .3, ./"01#LGE<Z*GV#`).5"3#>JJRN7#@' (#10/"01#09#. #1./"01B"+(#5/.1+C
)+"d(+#(^.: #B.5#: ."1/. "1(+;#F, /#"5#-(1/).3"/D#B.5#)(+, -(+;#5"1-(#"/#
10B#B.5#h, 5/#01(#09#/')((#"1/()/)(3./(+##-0: T01(1/5#+(5"&1(+#/0#(!.3, ./(#
5/, +(1/#T()90): .1-(#L!"./' (#(^.: N;# , 1+()&).+, ./(#-0,)5(5#L!".#!"5"/5#
FD#-0: : "55"015#-0: T05(+#09#.-.+(: "-#T()5N#.1+#' "&' ()#(+, -./"01#
"15"/, /"015#L.350#!".#!"5"/5#FD#T()#-0: : "55"015N7>0#GE<Z*G#"5#-00)+ "C

5, 5T(1+"1(B#. +: "55"015#/O#-. 1-(33"1&#. 3/O&(/' O) #' (#T)O&).: : (\5#
O)"#15"/, /"015#)"&' /#O#9, 1-/01#LA(+)05. ;#Z: .).3#. 1+##] 10F(3#>J60N7

8 (.1B' "3(:# .5#09# 6H?6;# "1#. --0)+. 1-(# B'/' # 1./"01. 3#3(&"53./"01;#
5./.(5#F(&. 1#"15/. 33"1&#/' (")#OB1#FO.)+5#09#(+, -. /"01;#B'/' #: (: F)5#
. TTO"1/(+ #FD#5/./ (#&O! ()10)57#@' (#5/), -/,)(#. 1+#9, 1-/01"1	#/' (#
5/./(#FO.)+5# #: ")O)#/' (#1./"01. 3#FO.)+;#B'/' #>R#: (: F)5;#B/O#-' .: C
F)5#. 1+#.#+)"(-/#3"1Y#O#/' (#5/./(#5(-) (/.) . /#O9#(+, -. /"017#@' (#FO.)+5#
. --)(+);#5, T O)! "5(#. 1+#! .3, ./(#5/./(#. 1+##: , 1"-T. 3# ' &' O) #(+, -. /"01#
"15"/, /"015#. 1+#90): .3D#) (-O&1"d(#, 1+)&). +, ./(#T)O&).: : (5#09#5/, +D7#
[13"Y(# "1#/' (#9(+). 3#5D5/(: ;#/' ()(# "5# 10# (!"+(1-(# .1D#5/./(#FO.)+5#
' .! (#). 159())(+ #/' (" #T)O)O&./" ! (5# "1#/' (#) (&, 3./"01#09#T)O&).: : (5# /O#
' / (#-0))5T01+"1&#. +: "1"5/). /" ! (#. , /' O)" /D7#@O#: .Y(#/' (") (&, 3./O)D#
+(-"5"015;#5/./ (#5 / (1+# /O#) (3D#O1# "5"/5#FD#-0: : "55"015#-0: T05(+ #O9#
) (-O&1"d(+#. -. +(: "57%0B(! ();#B' () (.5#/' (#! "5"/5#-01+, -/(+ #B'/' "1#
' / (#GE < Z *G#9): .(BO)Y#.) (#' "&' 3D#5/), -/,)(+;#/' (#! "5"/5#, 1+)/. Y(1#
. /#/' (#5/./ (#3! (3#.) (#09/(1#, 15/), -/,)(+;#) (5, 3/"1&#"1.#) (TO)/#B'/' #10#
T)(+ /(: "1(+ #90): . /#G"1-(# .33#5/./ (# "15"/, /"015#10B#T.) /"-T./ (# "1#/' (#
1./"01B"+ (#(^: #T)O-(55;#/' (#5/./(#FO.)+5#09/(1#, 5(#/' (#(^: \5#) (5, 3/5#
. 1+ #) (3./ (+ # "1+ "- /O)5#T)O+ , -(+ #FD#/' (#9(+). 3#&O! ()1: (1# /O#: .Y(#
' (") #) (&, 3./O)D#+(-"5"0157

@' (#T)! ./ (#5(-/O)"#5# .350# (! .3, ./ (+#. 1+ #) (&, 3./ (+ #FD#/' (#9(+). 3#
5D5/(: #O9# (+, -. /"01#, 5"1&#/' (#5.: (#5/), -/,) (#/' /# "5#. TT3(+ # /O#/' (#
9(+). 3#"15"/, /"015#@' "5# .5#3(+ # /O#-0: T3. "1/5#FD#T)"! ./ (#5(-/O#) (TC
) (5(1./ /" ! (5#09#, 19."#) /) (./: (1/7#@' (D#-01/(1+;#90) (#(^: T3;#/' /#/' (#
1./"01. 3#(^: #+"5-): "1./ (5# &. "15#/' (")# "15"/, /"015;#5"1-(# : 05/#T)"! ./ (#
(5/. F3"5': (1/5#-. /O) # /O# 30BC"1-0: (#5/, +(1/5#B' O#5, 99O) # / (5/"1&#+ "9C
9"-, 3#"5#B' "- #.) (# "1+(T(1+(1/#9)O: #/' (#i , 3"/D#09#/' (")#T)O&).: : (#
09#5/, +D7#@' (D# .350# .33(&#/' /# ! "5"/"1&#-0: : "55"015;#-0: T)"5(+ #O9#
: (: F)5#09# .1#-. +(: "-#-0: : , 1"/D#+0: "1./ (+ #FD#/' (#T, F3"-#5(-/O);#
09/(1# (^T) (55#F" .5# .&. "15#/' (#T)"! ./ (# "15"/, /"015#"1#/' (") # (! .3, /"01#
) (TO)/57#@' , 5;#/' (#T)"! ./ (#5(-/O) # ' .5#5/), &&3(+ # /O#O! () /,) 1#LO)#. /#3(. 5/#
5"&1"9"- .1/3D# .3/O)N#/' (#GE < Z *G#3. B#(!)#5"1-(# /"5#T. 55. & (#F, /;#50#9.);# /#
' .5#10/#F ((1#5, -- (559, 3#"1#/' "5#(1+(. !O,)7

g' () (.5#GE < Z *G#90-, 5(5#01#/' (# ! .3, /"01#09# ' "&' O) #(+, -. /"01#
"15"/, /"015#. 1+ #, 1+)&). +, ./ (#T)O&).: : (5;#099)"1&5# .#/' (# : .5/()#
. 1+ #+0-/O). 3#3! (35#.) (# ! .3, ./ (+ #5(T.) / (3D;#/')O, &' #. #1./"01. 3#5D5/(: #

.)(#.350#OF/."1(+#!".#.^ (5#01#": TO)/5;#(^TO)/5;#"1+, 5/).3#T)O+, -/5#.1+#
 9"1.1-.3#OT(O)./"015#ZF0, /#.9"9/' #09#5, -' #)(-("T/5#.)(#)(i, ") (+#FD#/' (#
 4015"/, /"01#/#OF(#).159())(+##O#/' (#5./.(#.#.1+#: , 1-"T.3#&O! ()1: (1/5;
 .--O)+ "1&#/#TOT, 3./"01#5"d(##E1#T00)#5./.(5#.1+#: , 1-"T.3"/(5;#/' (5(#
 /).159()5#)(T)(5(1/#.#5'&1"9"- .1/#TO)/"01#09#/' (")#/O/.3#)(-("T/5;#F, /;#"1#
 .3: 05/#.33#5/./.(5;#/' (#: 05#": TO)/.1/#50,)-(#09#"1-0: (#5#.#! .3, (C.++(+
 :)-' .1+"5(#/).^#B' "-' #F(1(9"/5;#90)#/' (#: 05/#T.)/;#/' (#5/./(#B')(#
 T)O+, -/5#.)(#T)O+, -(+##)./')#/' .1#/' (#5/./(#B')(#/' (D#.)(#, 3/": ./.(3D#
 T,)-' .5(+7>^#@' , 5;#B')(.5#/' (#9(+).3#&O! ()1: (1;/#/')O, &' #/).159()5#
 .1+#5T(1+"1&#F.5(+##01#1./"01.3#T)"O)/"5;#/(1+5#/#O5!)! (#.#)(+5)"F, /"01#
 9, 1-"01#/#' (#.^#5/, -/,)(#01#/' (#5/./(#3(! (3#5!) (5#/#O#)("190)-(#(&"01.3#
 B(.3/' #+"99()1-(5#_1(#9"1+5;#/') (90);#/' ./#+(5T"/(#9(+).3#5, TTO)/#
 B' "-' #5#+(5'&1(+##O#F(#(i, "/.F3;#/' (#&O! ()1: (1/5#09#)"-' #5/./.(5#/"1#/' (#
 GO, /' (.5/#.1+#GO, /' #)(#&"015#F(1(9"/#9)O: #T)#-.T"/.#/).^#)(-("T/5#/' ./#
 .)(#./#3(.5/##B"-(#.5#:, -' #.5#/' O5(#&.)1() (+#FD#/' (#&O! ()1: (1/5#09#/' (#
 T00)#5/./.(5#5"/, ./(+#"1#/' (#-0, 1)D)5#0/')#/')((#)(#&"0157>^0

@' (#9(+).3#&O! ()1: (1/#"5#)(i, ") (+##/O#5T(1++6Q#T)#-(1/#09#"/5#
 /.^#)(-("T/5#L: "1, 5#/).159()5N#01#(+, -. /"01;#.#.1+;#5"1-(#30B)O#3!(35#09#
 5-' 003"1&#.)(#: 05/3D#9"1.1-(+##FD#5/./.(5#.1+#: , 1-"T.3"/(5;#/' (#E"1"5/)D#
 09#*+, -. /"01#-.1#.#30-./(#.#.FO, /#1J#T)#-(1/#09#"/5#/#O/.3#5T(1+"1&#/#O#"/5#
 "'&')#(+, -. /"01#5D5/(: 7#Z5#.#)(5, 3/;#.#.3: 05/#>J#T)#-(1/#09#.33#T, F3"-#
 5T(1+"1&#"1#^).d"3#-,))(1/3D#&O(5#/#O#"'&')#(+, -. /"01;#.#.3/ O, &' #T, F3"-#
 "'&')#(+, -. /"01#-0: T)"5(5#013D#.#.FO, /#R#T)#-(1/#09#/#O/.3#T, F3"-#5-' 003#
 (1)O3: (1/57>^#Z/##' (#5/./.(#.#.1+#: , 1-"T.3#3!(35;#/' (#-O)) (5T01+"1&#-01C
 5"/, /"01.3#)(i, ") (: (1/#"5#>=#T)#-(1/#09#.33#/.^#)(-("T/5#L#T3, 5#/).159()5N;#
 F, /#:#.05/#L./#3(.5/#>JMN#09#/' (5(#9, 1+5#:#, 5/#&O#/#O#F.5"-#(+, -. /"017#E.1D#
 5/./.(5#05/(15"5F3D#T)O!" +(#.#5(/#T)#-(1/.&(#09#5/./(#/).^#)(! (1, (5#L, 5, C

>OR# \$# S0F()/#*!.1#X()' "1(#.1+#bD5#87#X7#U.1/.5

/O#"1#T).-/"-(7#@' (#5/./(#O9#G,O#A., 3O#"5#, 1"i , (#"1#/' "5#)(5T(-/;#5"1-(#
"/#&, .).1/((5;#/')O, &' #. , /O: ./"-#: O1/' 3D#/) .159()5;#.#T)(+(/(): "1(+
T)-(1/.&(#O9#/' (#5/./(: ()-' .1+"d(#/.^#/O#(-' #O9#/'5#/')((#, 1"! ()5"/"(5#
L-O: F"1(+#T)-(1/.&(#=#H7=IMN7

E1+"!"+, .3#(-O10: "-#T.DO995#90)#/(/)"/.)DC3(! (3# (+, -./"O1#"1#`).d"3#
' .!(#F((1#" '&' ;0J#.1+##/' "5#" .5#: O/"! ./(+##+(: .1+#9O)#: O)(#5T(1+"1&#
O1#" '&')#(+, -./"O1;#B' "-' #-,))(1/3D#. --O, 1/5#9O)#.FO, /#6#T()#-(1/#O9#

`.d"3# \$# >0=

E1#5' .)T#-01/).5;/#/' (#-0, 1/)D\5#T)(: "O#, 1"! ()5"/D:#/' (# [1"! ()5"/D#O9#
G, O#A. , 30;#5T(1/#O!)# [Ge>=;JJJ#T()#5/, +(1/"1#>J607">

U(5T"/(#.#-015"/, /"01.3#+ "-./(/#O#/' (#-01/).)D;#9"1.1-.3#., /010: D#
. /# T, F3"-# "15"/, /"015#"5#5(!) (3D#3": "/(+7#@' (#9(+).3#&O! ()1: (1/"5#
) (i, ") (+#O#T)O!" + (;.5#T.)/#O9#/'5#) (&, 3.)#F, +&(/;#/' (#) (50,)-(5#1 (-55.)D#
/O#5, 5/."1#/' (#"15"/, /"015#O9#" '&' ()# (+, -. /"01#/' ./#.) (#, 1+()#"5#+") (-/#
-01)O37#2(+).3#"15"/, /"015#OF/. "1#QQ#T()#-(1/#O9#/' (")#9, 1+"1)O: #
9(+).3#&O! ()1: (1/#Z: .).3#>JJQN7#%OB(!):#/' (#9(+).3#&O! ()1: (1/#
) (5/)"-/5#"15"/, /"01.3#9"1.1-".3#1+(T(1+(1-(#FD#(.): .)Y"1	, 1+5#B"/' "1#
5T("-9"-#-./(&O)"(5;#: .Y"1&#/"#!")/, .33D#": T055"F3(/O#/) .159()#: 01(D#
9)O: #01(#-./(&O)D#/O#.10/'):#.1+#FD#(i, ") "1&#(50,)-(5#10/#, /"3"d(+
FD#/' (#(1+#O9#/' (#)5-3#D(.)#/O#F(#)(/,)1(+#/O#/' (#8"1"5)D#O9#*+, -. /"017

G./.(5#. +OT/#5": "3.)#T)O-(+,) (5#B"/' #) (5T(-/#O#/' (")#' "&' ()#(+, -.C
/"01;#B"/' #/' (# (^-(T/"01#O9#/' (#5./.(#O9#G, O#A. , 30;#B' "-' #, /"3"d(5#.#
F30-Y#&).1/#.TT)O.-' 7#G./.(#&O! ()1: (1/5#T)O!" + (#QI#T)O#-(1/#O9#/' (#
9"1.1-"1&#)(-("!(+FD#5./.(#"15"/, /"0157__1#/' (#O/')#'.1+;#(50,)-(5#
, 5(+FD##: , 1-"T.3#.1+#T)"! ./(#"15"/, /"015#.) (#T)": .)"3D#+()!" (+#9)O: #

>0?# \$# S0F()/#*!.1#X()' "1(#.1+#bD5#87#X7#U.1/.5

6HHQN7#G"1-(#5.3.)D#5-.3(5#.)(#, 1"90): #B"/' "1#/' (#9(+().3#5D5/(: #.1+#5/, C
+(1/#F0+D#5"d(#5#/' (#: 05/#": T0)/.1/#-)" /()".#, 5(+#"1#+#5)"F, /"1�/' ()#
9(+().3#)(50,)-(5;#/' (#! .)"/"01#F (/B((1#"15"/, /"015#09#T())#5/, +(1/#9(+C
().3#.330-./"015#"5#50: (B' ./#: "/"&./(+7#*(1#50;#5, F5/.1/" .3#+#99)(1-(5#

E/"5#3"Y(3D#/' ./#5(! () .3#9. -/0)5#B"33#530B#/' (#&)0B/' #)./(#09#"1! (5/C
: (1/"1# ' "&' ()#(+, -."/01#"1# `).d"3#0! ()#/" : (7#2")5/;#)(+, -(+#9()/)"3"/D#
) ./(5#B"33#(! (1/, .33D#' .! (#": T. -/#01#' "&' ()#(+, -."/01;# .3/' 0, &' #- ,)C
) (1/#0B#1 (/#(1)03: (1/#) ./(5#5/"33#3(.! (#)00: #90)#-01/"1, (+#(^T. 15"017#
G(-01+;#FO/' #T)"! ./(# .1+#50-" .3#) ./(5#09#)(/,)1#LB' "- ' #1-3, +(#T, F3"-#
5T(1+"1&#T()#5/, +(1/W90)# " &' ()#(+, -."/01#.) (#9. 33"1&##+, (#/0#.#-0: F"1.C
/"01#09# " &' ()#-05/5#. 1+#.#&)(./()#)(3./"!(#5, TT3D#09#-033(&(#&).+, ./(57#
Z3/' 0, &' #T)"! ./(#) ./(5#)(: ."1# " &' ;#./#. FO, /#>=#T()#-(1/;#/' (#50-" .3#) ./(#

>00# \$# S0F()/#*!.1#X()' "1(#.1+#bD5#87#X7#U.1/.5

: .hO)#(+, -/"015#1#T, F3"-#(^T(1+/",)(7#Z3/' O, &' #5T(1+"1#" '&' ()#
(+, -."/01#" .5#10/#"1-)(.5(+#.5#9.5/#.5#/' ./#09#50-" .3#5()!"-(5#"1#&(1().3;#
"/#B"33#, 1+0, F/(+3D#F("#: T.-/(+#1(&./"! (3D#.5#., 5/O)"D#: (.5,)(5#.)(#
": T3:(1/(+#LZ3: ("+.#j)7;#b"5FO.#.1+#A(550.#>J6=N7

`).d"3# \$# >OH

: .1D#O/' ()#-0, 1/) "(57^{OR}#G"1-(#.#&)(./#T.)/#O9#/' (#-0, 1/)D\5#)(5(.)-' #"
-01+, -(+##B"/' "1#&).+, ./(#T)O&): : (5;#/' (#+"5/)F, /"O1#O9#)(5(.)-' #
0, /T, /#FD#5/. /(#.1+#/DT(#O9#"15"/, /"O1#-3O5(3D#: ")O)5#/' (#1."/O1.3#
+"5)"F, /"O1#O9#"&' #i, .3"/D#+0-/O).3#O99()"1&57#G./"5/"-5#9O)#/' (#T)"O+#
>JJ>K>JJ?#)!(.3#/' ./#1R7=#T()#-(1/#O9#/' (#-0, 1/)D\5#/O).3#"1+^(+
T, F3"-./"O15#.)(#T)O+, -(+##1#/' (#GO, /' (.5;/#.5#-0: T.)(+##/O#6H#T()#-(1/#
9O)#/' (#GO, /' ;#6>#T()#-(1/#9O)#/' (#<0)/' (.5;/#=#T()#-(1/#9O)#/' (#4(1/)(C
B(5;/#.1+#O#T()#-(1/#9O)#/' (#<0)/' 7#S(: .)Y.F3D;#.FO, /#=#J#T()#-(1/#O9#
/' (#-0, 1/D\5#5-"(1/"9"-#0, /T, /#"5#T)O+, -(+##FD#O13D#/')((#, 1!"()5"/'(5;
.33#5TO15O)(+##FD#/' (#5/./(#O9#G, O#A., 3O#L2ZA*GA#>J6JN7

g (33#O! ()#'.39#O9#/' (#9, 1+"1	O)#5-"(1-(;#/'(-' 1O3O&D#.1+#"11O! ./"O1#
+)"! (5#9)O: #T, F3"-#-O99)57#@' (#: O5/#: TO)/.1/#T, F3"-#5O,)-(5#1-3, +(##
FO/' #' (#<./"O1.3#S(5(.)-' #4O, 1-"3#L4 <Ai N;#B"-' #'5#T.)/#O9#`).d"3\5#
8"1"5/)D#O9#G-"(1-(;#@(-' 1O3O&D#.1+#E11O! ./"O1;#.1+#5/./CF.5(+
9O, 1+./"O15#9O)#)(5(.)-' #9, 1+"1&7#_9#/' (#-0, 1/)D\5#>I#5/./5#L"1-3, +C
"1&#/' (#2(+).3#U"5/)-/N;#>>#5/./5#-,))(1/3D#'.! (#.#5-"(1/"9"-#9, 1+"1&
9O, 1+./"O1#"1#OT() ./"O17#_! ().33;#/' (#5/./(#9O, 1+./"O15#T)O!"+(#.FO, /#

>RJ# \$# S0F()/#*!.1#X() ' "1.1+#bD5#87#X7#U.1/.5

09#`).d"3\5#"1/()1./"01.3#T, F3"-./"015#"1!03! (#.1#., /' 0)#9)0: #.10/' ()#
-0, 1/)D#L8, &1."1";#U"&.TT"(/)"#.1+#8(1.C4'.3-0#>J6RN7^=#_13D#.FO, /#
J7=#T()#-(1/#09#.33#"&' ()#(+, -./"01#5/, +(1/5#.1+#3(55#/' .1#0#T()#-(1/#09#
/' 05(#B' 0#5/, +D#./#&).+, ./(#3(! (3#.)(#10/#`).d"3".1#-/"d(157#E1#-01/).5/;
.5#.1#.! () .&(#Q#T()#-(1/#09#/(/".)DC3!(3#5/, +(1/5#"1__ * 4 U#-0, 1/)"(5#
.1+#6H#T()#-(1/#09#/' 05(#B' 0#5/, +D#./#/OTC).1Y(+#"15"/, /"015#-.1#F(#
-3.55"9"(+#.5#90)("&1()5#L__ * 4 U#>J6RN7

G(! () .3# "5/0)"-.3#9. -/0)5#-01/)F, /(#/0#/' (#"15, 3.)"/D#09#`).d"3\5#" "&' ()#
(+, -./"01;#"1-3, +"1&#/' (# F(3" (9#/' ./#/' (# -0, 1/)D\5#3": "/(+ # 1, : F())#
09#/(/".)DC3!(3#530/5#5' 0, 3+#F(#)(5()! (+#90)#1./"01.35;#/' (#/(1+(1-D#
01#/' (#T.)/#09#/' (#.-.+(: "-#-0: : , 1"/D#/O#F(#+"5/), 5/9, 3#09#90)("&1#
: O+(35#.1+#"1/()! (1/"015;#.1+#/' (#9.-/#/' ./#/' (#AO)/, &, (5(#3.1&, .&(#
"5#10/#B"+(3D#, /"3"d(+ #B/' "1#"1/()1./"01.3#5-"(1/"9"-#-)"-3(5#Lb": .#.1+#

/' (#i , .3"/D#90)#.#9(B#09#/' (: 7#Z--0)+"1&#/0#/' (#Z-.+(: "-#S.1Y"1&#
09#g 0)3+# [1"! ()5"/"(5#LZSg [#>J6?N;#5"^#^).d"3".1# , 1"! ()5"/"(5#T3. -(#
B"/' "1#/' (#/OT#=JJ;#/')((#5/./(#L.33#30-./(+"#1#G,,0#A. , 30N#.1+#/')((#
9(+().3#L5"/. /(+##1#/')((#09#/' (#-0, 1/)D\5#)"-' (5/#5/./(#N7#@0&('/);#/' (5(#
, 1"! ()5"/"(5#T)0!" +(#.#/' ") +#09#/' (#+0-/0).3#T)0&). : : (5#1#/' (#-0, 1/)D#
.1+# -015(i , (1/3D#F(1(9"/#+"5T)0T0)"/"01./ (3D#9)0: #9(+().3#9, 1+5#90)#
&).+, ./(#5/, +D#.1+#)(5(.)-' 7#@' (D#.)(#.350#5, TTO)/(+#FD#/' (#-0, 1/)D\5#
B(.3/' "(5/#5/./(#90, 1+./"015#90)#(5(.)-' #9, 1+"1&#.1+#/' , 5#-.1#5, 5/."1#
.1+#": T)0! (#/' (")#5/./, 5#.5# " &' #i , .3"/D#"15"/, /"0157#@' , 5;#+(5T"/(#"/5#

>R># \$S S0F()/#*!.1#X() '1(#.1+#bD5#87#X7#U.1/.5

T)O!"+"1&# " &')#(+, -. /"O1#OTTO)/, 1/"(5#O#/' O5(#, 1.F3(#O#-O: T(/(#
(99(-!/"(3D#90)#/' (#3": "/(+9#(+).3#530/5:#FO/' #F(-., 5(#O9#-. +(: "-#T)C
90): .1-#3": ". /"O15#.1+#F(-., 5(#O9#&(O&).T' "-#F.)")5#(5, 3/"1)O: #
/' (#-01-(1/). /"O1#O9#9(+).3#, 1!"(5"/(5#1#:.h0)#, F.1#.)(.57#8, 1"-T.3#
"15"/, /"O15#.350#5!)#TOT, 3. /"O15#"1#O, /3D"1&#.)(.5:#F, /#/' (D#.)(#9(B#
"1#1, : F):#OT). /(#"1#O13D#. #9(B#5/. / (5#.1+#.)(#"1#/' (#T)O-(55#O9#F("1&
/).1590): (+#"1/O#T)! ./(#(5/.F3"5' : (1/5#:#.5# : O5/# : , 1"-T.3"/(5#.)#
5(!)(3D#5).TT(+90)#9, 1+5#.1+#.)(#-015"/, /"O1.33D#)(i, ") (+#O#&!"(#
T)O)"D#O#/' (#T)O!"5"O1#O9#T)(5'- 003#.1+#T): .)D#(+, -. /"O17

@' (#+!"(5"/D#.1+#)(5TO15"! (1(55#O9# " &')#(+, -. /"O1#1#/' (#-0, 1/)D#
"5#&, .). /((+##/')O, &' #/'5#', &(#T)! ./(#5(-/O):#B' "-#T)O!"+(5#5"&1"9C
-.1/#!.)"/(D#"1#/(O): 5#O9#15"/, /"O1.3#/DT(:#O)&.1"d. /"O1:#5"d(:#-),)"-3.)#
OT/"O15#.1+++(3"!)D#:(-'.1"5: 57#A)"! ./(#"15"/, /"O15:#(5T(-.33D#/' O5(#
90)#T)O9#/'#'.! (#F((1#.&&)(55!"(#"1#)(5TO1+"1&#O#-' .1&"1.FO,)#
:.)Y(/#+(.1+5:#O99)"1&#-O,)5(5#)(3./(+#O#1(B#O--.T. /"O15#O)#O--.C
T. /"O15#B' "-#"+#10/#T)!"O, 53D#)(i, ")#.#-033&(#(+, -. /"O1#G.: T."O#
>J66N7#@' (")#101C/).+" /"O1.3#.TT)O.-' #5#(93(-/(+#FD#/' (")#1. /"O1B'+(#
+O: "1.1-(#"1#/' (#9"(3+5#O9#+5/.1-(#(+, -. /"O1#.1+#(-' 1"-3#5/, +D7#@' (")
+D1.: "-#1./,)#5#.350#5, &&(5/(+FD#/' (#9.-/##' ./#/' (#: O5/#).T"+#&)OB/' #
"1#T)"! ./(#5(-/O)#(1)O3: (1/5#'.5:#"1#)(- (1/#D(.5:#O--.)) (+#O, /5"+(#O9#
-.T"/.3#-" /"O15#(5#.1+#/' (#-0, 1/)D#5# : O5/#+!(3OT(+)&("O15#L`.)5"3>J66N7^{O1}

@BO#-01-3, 5"O15#/' (O)(#(:)&(#9)O: #' (#`).d"3.1#(^T)^(1-(7#
2")5)/#9(+).3"5: #"/5(39#+O(5# 1O/#1(-(55.))"3D#3(.+/#O# ' &')#(+, -. /"O1#
+"!)5"/D:#(5T(-.33D#B' (1#, 1"90): #3(&.3#.).1&(: (1/5#.1+#)&(, 3./O)D#
T)O-(55(5#.)#": T3(: (1/(+O1#.#1. /"O1.3#3!(37#G(-O1+;# " &')#(+, -.C
/"O1#+"!)5"/D#+O(5# 1O/#1(-(55.))"3D#F)(.Y#+OB1#50-.3#(-O10: "-# .1+#
&(O&).T' "-#+"! "5"O157#E1#`).d"3;#+"!)5"/D#FO/' #B' /"1#.1+#F/B((1#
T, F3-#.1+#T)! ./(# " &')#(+, -. /"O1#5(-/O)5#/(1+5#O#F(#.--O: T.1"(+FD#
i, .3"/D#+99(1/" .35#/' ./#: ")O)#"1/(O)-3.55#.1+#"1/(O)&("O1.3#+5T.)/"(57#
@', 5;# " &')#(+, -. /"O1#B' /"1#. #9(+).3#5(/"1&# : .D#T)O: O/(:#) /' (O)
/' .1#)(+, -(#(^5"/1&#"1(i, .3"/(57^{O0}

^{O1#P})OB/' #T. / (O)15#.1+#/' (#+!"(5"/D#O9#-O,)5(#O9O)"1&5#.1+#5/, +(1/#-'.). / (O)"5C
/"-5#B' /' #)(5T(-/#O#/' (#T)"! ./(# " &')#(+, -. /"O1#5(-/O)#'.! (#F((1#+(.3#B' /' #1#+(/.3#
FD#` .))D)O#L>JJQ#;G.: T."O#L>J66N;#.1+#G(-. #.1+#b(.3#L>JJHN;#. O1&#O/')57#

^{O0#}@'. /# " &')#(+, -. /"O1#+"!)5"/D# : .D#+O# : O)(#O#)("190)-(#) /' (O) /' .1#
) (+, -(#50-.3#"1(i, .3"/(5#'.5#F((1#OF5O)!(+FD#.#1, : F)O#O9#5- O3.5);5, -' #.5#

Z--(55"F"3"/D#)(3./(/5#/O#FO/' #-O! () .&(#. 1+#(i , "/D7#g "'/ #)(5T(-/#/O#-O! ()C
. &(#9(+O).3#, 1"! ()5"/" (5:#B' "-' #90)#: . 1D#D(.)5#B() (#! ") / , .33D#/' (#013D#
, 1"! ()5"/" (5#/O# (^"5/#0, /5" + (#09#G, 0#A. , 30;#B) (#' "&' #T, F3" -# -05/#;30B#
T)"! ./ (#-05/#"15"/ / , /"015#B"/' #5/ , +(1/#. --(55#. ! ."3. F3(#/O#013D#. #5(3(-/#
9(B7#@' "5#5-(1.)"O#T)O! OY(+#' "&' #) ./ (5#09#) (/ ,)1#90)#/' O5(#OF/ ."1"1&#. #
, 1"! ()5"/D#-)(+(1/" .3:#. 1+;# 301&#B"/' #' (#"1-)(.5"1, : F()#09#5/ , +(1/5#
-O: T3("/"1&#/' (#5(-O1+.)D#3(! (3;#T)O: O/(+##/' (#).T"+#(^T. 15"01#09# " &' ()#

`).d"3# \$# >R=

5D5/(: #: .1+./O)D#.#.33#9(+().3#"15"/,/"015#@' (#3.B#)(i,") (5#/' ./;./#
9(+().3#"15"/,/"015;#=J#T()#-(1/#09#/' (#! .-.1-"(5#F(#9"33(+#FD#T, F3"-#
5-' 003#&).+, ./ (5;# B"/' #5, Fci, O/.5#90)#F3.-Y5#.1+#1./"! (#TOT, 3./"015#
+(/): "1(+#"1#. --0)+.1-(#B"/' #' (')#T)OT0)/"01#"1#/' (#TOT, 3./"01#09#
/' (#5./ (#B') (#/' (#"15"/,/"01#09#"&')#(+, -./"01#"5#30-./ (+7#Z3/' O, &' #
`).d"35#.99"): ./"! (#.-/"01#(^T)"(1-(#"5#)(3./"! (3D#)(-(1/;#5/, +"(5#5, &C
&(5/#' ./#"5#": T.-/#' .5#F((1#T05"/"! (7#G/, +(1/5#B' O#(1/Q)##/')O, &' #' (#
i, O/.#5D5/(: #/(1+#/O#F(#' "&' 3D#: O/"! ./(+#.1+##+0#B(33#.-.+(: "-.33D;#
(^- (T/"1#5, Fh(-/5#)(i, ")1&#: ./' 5;#. #9"(3+##-'.)-/()"d(+##/')O, &' O, /##/' (#
-O, 1/)D#FD#5(! ()(#"15/), -/"01.3#+(9"- "(1-"(5#01#30B()#5-' 003"1(! (35#

>R?# \$# S0F()/#*!.1#X() "1(.1+#bD5#87#X7#U.1/.5

5, &&(5/5#/' .#5/./(#&O!()1: (1/5#.)(#: O)(#1!O3! (+#/' .1#/' (#9(+).3#&O!C
()1: (1/#1#+(-"5"O15#)(&.)+"1/.99#.TTO"1': (1/5;#9.-, 3/D#T)O: O/"O1#
.1+#/(.- "1O.+7#@', 5;#.#/' (#)(&"O1.3#3(! (3;#/' (#"1/O)(5/5#O9#(^/()1.3#
5/.Y(' O3+)O5#.)(#: O)(#!"+(1/;#3/' O, &' #' (#9.-, 3/D#"5#5/"3#5((1#.5#+O: "C
1.1/;#(5T(-.33D#B#' #)(5T(-/#O#/' (#"1/O)1.3#5(3(-/"O1#O9#"15"/, /"O1.3#
., /' O)"/"(5#L .3F.-' (!5YD#.1+#G-' B.)/d: .1#>J66N7#Z3/' O, &' #' (#-' "(9#
"15"/, /"O1.3#., /' O)/D#./#T, F3"-#"15"/, /"O15#B#"3+5#-O15"+).F3(#"193, C
(1-(;# "5#O)#' ()#TOB()#5#-./."3(+FD#.# O5/#O9#1/O)1.3#.1+#(^/()1.3#9.-C
/O)5;#"1-3, +"1&#/' (#1((+/#O#), 1#9O)#(C(3(-/"O1#.9/O)#O.)#D(.).5#1#O99#-(:;
/' (#"193, (1-(#O9#TOB)9, 3#9.-, 3/D#.1+#1O1C9.-, 3/D#3.FO,)#, 1"O15;#/' (#
+(: .1+5#; .+/#FD#(^/()1.3#&O!()1: (1/.3#., +/"O)5#;.1+#/' (#T)5O11(3#
)(5)"-"O15#": TO5(+FD#-"! "3#5()!"-(#3(&"53./"O17#bO.-3#TO3)"-" .15#'.! (#
.1#": T.-/#.5#B(3;#(5T(-.33D#.#/' (#5, F1./"O1.3#3(! (3#@' (")#"193, (1-(#
"5#T.)"- , 3.)3D#(! "+"(1/#B/' #)(5T(-/#O#/' (#3O.-/"O1#O9#1(B#-.: T, 5(5;
.5#/' (D#3OFFD#B#' "1#3(&"53./,)(5#.1+#.+: "1"5)/."! (#TO3"-DC: .Y"1&
5(-/O)5#O#5()! (#-O15"/, (1/#"1/O)(5/57#Z5#.#)(5, 3/;#-.: T, 5#3O.-/"O15#O9#
9(+).3#.1+#5/./(#' '&' O)#(+, -/"O1#"15"/, /"O15#O9/(1#O!) (3.T#&(1)./"1&
)(+, 1+.-1-D#.#1+#"1(99#-"(1-D#B#' "1#/' (#' '&' O)#(+, -/"O1#1(/BO)Y# 5#
.#B' O3(#L2".3' O#>J6>N7^{RJ}

8O5/#T)! ./(#"15"/, /"O15;#"1#-O1).5/;#.)(#, 1#3"Y(#F, 5"1(55(57#
Z, /' O)/D#"5#'"(.)-'" .3#B#' #: .hO)#TOB()#&! (1#/O#.+:"1"5)/."! (#
3(+).O)5#.1+#3"/3(#.-+(: "#-. , /O10: D#.33O//(+/#O#9.-, 3/D#: (: F)57#Z#
5: .33#1, : F)O#9#(3/'(#T)! ./(#, 1"!) (5"/"5#5()! (#n1-' (#: .)Y(5#B#' '- #
)(i, ")#/' (: #/O#"1!(5/#"1#"&' #i , .3"/D#T)O9(55O)5#"1#O+)O/#O#./).-/#
9((CT.D"1/, +(1/57#@' (D#O99)#/' (")#T)O9(55O)5#.#: O+";. : #O9#.-.C
+(: "#-. , /O10: D#.#3/' O, &' #10#1(.).3D#/' ./#&! (1#FD#T, F3"-#(1"/"O1(5#
L .3F.-' (!5YD#.1+#G-' B.)/d: .1#>J66N7

Z5#9O)#5D5/(: #B#+(#.1+#"15"/, /"O1.3#.-O, 1/.F"3"/D;#`).d"3#' .5#
": T3:((1/(+#(3.FO)./(#! .3, ./"!(# .1+#)(&, 3./O)D#:(-' .1"5: 5#
+(5"&1(+/#O#(15,)(#:"1": , : #5/.1+.)+5#O9#"&' O)#(+, -/"O1#i , .3"/D7#
U(5T"/(#5": "3.)"/"5#"1#/' (#.TT)O.-' (5#. +OT/(+FD#1./"O1.3#.1+#5/./(#
5T') (5;#.-O, 1/.F"3"/D#TO3"-("5#'.! (#T)O! OY(+/#(15"O15#F(/B((1#/' (#

^{RJ}20)#(^.: T3(;#/' (#G./([1"!)5"/D#O9#S"O#P).1+(#+O#<O)/(#L[*S<N# .1+#
/' (#2(+).3#[1"!)5"/D#O9#/' (#G(: "CZ)"#S(&"O1#L[2*SGZN#O99)5#": "3.)#-O,)5(5#
O9#5/, +D#.1+#' .! (#-.: T, 5(5#/' .#.)(#3O.-/(+.#.h.- (1/#O#O1(#.1O/' O);#"1#/' (#-/"D#O9#
8O55O)I#8.1D#5": "3.)#-.5(5#-.1#F(#9O, 1+#/')O, &' O, /#/' (#-O, 1)/D7

/B0#)(&, 3./O)D#5D5/(: 57#@' (#1./"01.3#&0! ()1: (1/"5#3(&.33D#)(5T01C
5"F3(#90)#(!.3, ./"1/, +(1/#.-' "((: (1/#.1+#"15"//, /"015#./#/' (#/)C
/.)D#3(! (3;"1#-033.FO)./"01#B"/' #'/' (#5.//(57#@' , 5;#/' 05(#)(5T015"F3(#
90)#-)./"1&#GE<Z*G#9(3/#-019"+(1/#/' ./#/' (#1(B#(!.3, ./"01#5D5/(: #
B0, 3+#F(#.#n1./"01.3#5D5/(: #5"1-(#5/./(#&0! ()1: (1/5#' .+#.&)((+#
/O#-00T)./(7#E1#/' (#- 5(#09#GE<Z*G;# ' 0B(! ();#/' (#5.//(#FO.)+5#09#
(+, -./"01#B() (#1(&./!"(3D#+ "5T05(+ #F(-. , 5(#/' (D#F(3"(! (+#/' ./#)(5"C
+(1/5#09#/' (")#5/./(:#B' 0#B() (#9.: "3".)#B/' #30-.3#)(.3"/'(5;#5' O, 3+#F(#
T(): //"(+#/O#T.)/"-T./(#.5#: (: F)5#09#/' (#-0: : "55"015#)(5T015"F3(#
90)#/' (#(^/)1.3#! "5"/57

2(+().3#., /' O)"/'(5#./(: T/(+#/O#-01!"1-(#5/./C3(! (3#(+, -./O)5#/O#
5((#/' (#!.3, (#09#)(-"!"1&#.1#0, /5"+(#(!.3, ./"01;#F, /#/' (")#(990)/5#/O#
+0#50#B() (#, 1+(): "1(+ #FD#.#: .h0)#93.B#"1#/' (#3(&"53./"017#Z3/' O, &' #
T,)T0)/(+3D#.#3.B#.FO, /#(!.3, ./"01;#"/#-01/."1(+.#.1#.)/"-3(#+(.3"1&#
+)(-/3D#B/' #)(&, 3./"017#@' "5#.)/"-3(:#.#.3)(.+D#10/(+;#)(i, ") (+#/' ./#

>RQ

5, --(55:#"1#T.)/#F(-., 5(#/' (#5.3.)D#3(! (35#O9#9.-, 3/D# : (F)5#-.110/#F(# : .1"T, 3./(+##, (#/O#/' (#n"5010: D\T)"1-"T3(7

40: T.)./'! (#)(&"01.3#"1+"-. /O)5#5, &&(5/'/ ./'/ (#T.//()1#09&)0B/' # +,)"1&#/' (#&)(./#(^T.15"01#1# " &')#(+, -. /"01# 9/()#6HH=#: .+(#50: (# T)O&)(55#"1#F)(.Y"1&#+0B1#)(&"01.3#+5T.)"/" (5#"1# --(55:#F, /#/#-01/"1, (5# /O#F(#-01-(1/)./(+#"1#/' (#GO, /' (.5/#.1+##/5#1. /"01.3#+5)"F, /"01#-305(3D# -O))(5T01+5#0#3(! (35#O9#)(&"01.3#"1-O: (#L@.F3(#?7RN7

E1+(+;#5"1-(#"15"/, /"01.3#i , .3"/D#5#+5)"F, /(+#"1#. #5": "3.)# : .11() ; # /' (#(^T.15"01#09# " &')#(+, -. /"01# : .D#F(#5/)(1&/' (1"1&#L.1+#3(&"/C : "d"1&N#&(O&).T" "-#1(i , .3"/D7R>#E/#"5#3"Y(3D# /' . /# " &')#(+, -. /"01#5# : 05/#: TO)/.1/#-01)"F, /"01#0#)(&"01.3#+(! (30T: (1/#' .5#F((1# : .+(# /')O, &' #/5#5T)(. +;#B"/' "1#(-' #5/./(:#O#T) (!"O, 53D#)(: O/(#.)(.57# O/' # 5./.(# .1+#1. /"01.3#&O! ()1: (1/5#' .! (#)(- (1/3D#-)(./(+#1 (B#"15"/, /"015# .1+#- : T, 5(5#90)#(^"5/"1&#(5/.F3"5' : (1/5#O, /5"+(#O9# : .hO)#,)F.1#dO1(5;# /') (FD#&(O&).T" "-.33D#(^T.1+"1
/#O13D#5/, +D#OTTO)/, 1"/" (5#F, /#.350#

1. **6.4 Growth of Total Number (Public Plus Private) of Higher Education Institutions by Region, 1998–2013**

| R | _R | 1998 | | 2013 | |
|-------------|----|------|--------|-------|-------|
| | | N | % | N | % |
| Brazil | | 973 | 100.00 | 2.391 | 100 |
| North | | 40 | 4.11 | 146 | 6.11 |
| Northeast | | 124 | 12.74 | 446 | 18.65 |
| Southeast | | 570 | 58.58 | 1.145 | 47.89 |
| South | | 131 | 13.46 | 413 | 17.27 |
| Centre-west | | 108 | 11.10 | 241 | 10.08 |

Source: INEP (2013).

R>#Z1.3D5(5#-01+, -/(+FD#/' (#, /' O)5#, 5"1&##+./.#T)O!" +(+FD#E<*A#5()!(#/O# "33, 5/)./(#/' (#)3./"015' "TF(/B((1#)(&"01.3#+(! (30T: (1/#.1+#, 1"! ()5"/D#i , .3"/D#1# `).d"3#@" (#P(1().3#40,)5(#E1+(^#LEP4N;# #: (.5,)(#O9#/' (#: (.1#(!.3, . /"01#&).+(# O9#.3#-0,)5(5#O99() (+FD#/' (# " &')#(+, -. /"01#"15"/, /"01;#B.5;#01#.! () .(:#>?70T()# -(1/# " &')#/"1#/' (#GO, /' #.1+GO, /' (.5/#)(&"015#/' .1#"1#/' (#<O) /' #)(&"01

>=J# \$# S0F()/#*!.1#X()' "1(.1+#bD5#87#X7#U.1/.5

"15)/, : (1/5#LhOF5;#Y10B3(+&(;#(/-7N#90)#/' (#&(1()./'01#09#B(.3/' 7#@' (#
T)"! ./(#5(-/0)#' .5#.350#-01/) "F, /(+;# 5#: .1D#T)"! ./(#'15/'/, /'015#OT()./(#
L(5T(-.33D#!".#+"5/.1-(#(+, -./'01N#"1#T3.- (5#B')(#10#T, F3"-#' "&')#
(+, -./'01#"15"/, /'01#' .5#! (1/,)(+7

__1(#B0, 3+#(^T(-/#/' "5#&(0&).T' "-#B"+(1"1	#' "&')#(+, -./'01#
OTTO)/, 1"/"(5#"1#/' (#-0, 1/)D#/O#F(#.--0: T.1"(+ #FD#/' (#T)0: 0/'01#09#
)(&"01.3#.1+#30-.3#+(! (30T: (1/7# ` , /#/')#)3(! .1/#)5(.)-' "#1# `).d"3#
099()5#)5, 3/5#/' ./#.)(#: "^(+##.1+#"1-01-3, 5"! (#.FO, /#/')#)3./'015' "T#
F(/B((1#' "&')#(+, -./'01#.1+#)(&"01.3#+(! (30T: (1/7#Z: 01/, +"(5#
' ./#5, &&(5/#T05"/!" (#(99(-/5#90)#' "&')#(+, -./'01#.)(#/' 05(#"1+"-./"1&#
, 1"!)5"/D#-01/) "F, /'015#/O#30-.3W)(&"01.3#"1-0: (#L4.3+.) (33"#4.: .)#
.1+#A()+ "&,"0#>J6=N#.1+#/O#/' (#+(! (30T: (1/#09#-0: : , 1"/D#3(.+)5' "T#
L405/.#.1+#8").1+.#>J66N#S(5, 3/5#9)0: #0/')#"1! (5/'&./'015;#/' 0, &' ;#
) (#3(55#OT/" : "5/"-7#Z#5/, +D#FD#bOT(5#L>J6>N;#90)#(^.: T3(;#5' 0B5#/' ./#
')#)(&"01.3#, 1"!)5"/D#09#5/, +D#"5#013D#. #5: .33#-0: T01(1/#09#/' (#0!).33#

`.d"3# \$# >=6

>=># \$

) .d"3# \$#>=0

" : T)0! (: (1/#09# ' "&' ()# (+, -./"01 ;#50: (/ ' "1&# ' "&' 3D#! .3, (+#"1#/' (# -01/ (^/#09# ^) .d"3" .1#50-" (D7

ZF) f-"0;#27#b7#>J6J7#nZ#+ "1^: "-.#9(+().!/"! .#+.#(+, -. .‡.0#F) .5"3(") .a#+" .&115/"-0#(# T)OT05/ .5#+(# .T)9("‡0 : (1/0\7#E1#=#&\$75np+ /)0)&)*52-. , +/%+ /! "5.-2k/7+, 15<)^/5./ &)-.3\$52&5&)-./35"5%<*/5/&@)*.-&5&)_#(+)/(+#FD#S7#A7#_3"! (") .# .1+#g 7G. 1. 1. ;# OHK1 J7# ^) .5k3" .a# [< *G4_7

Z3: ("+. #87;#j);#b"5F0 .:#87#^ 7;# .1+#A (550 .:#G7#>J6=7#n_# .h, 5/(#^1 (!"/!) (3#0, #O#T .k5# i , (#9-0, #! (3' O# .1/(5#+ (#5(#/0)1 .)#+(5(1! 03! "+0\7#6+285/8)?p+/F5\$2+;#6H#j, 3D7

Z: .).3;#<7#47#>JJQ7#n_#9"1 .1-" : (1/O#+.5# , 1"!)5"+.+(5#F) .5"3(") .5#(#.5# .55: (A)" .5#)(&"01 ."5a# , : #5/, +0#50F)(#0#-, 5/O#+O# .3, 1O\7#E1#=#&\$75np+ /.\$4)^+*/%+ /! "5.-2/)/ &@)*.-&5&/)3+;%52;#(+/#FD#X7#b7#4' .! (5# .1+#j7#S7#G"3! .;#j)7;#6>1K6=>7#^ (3m: a# *+ /0) .# [1"!) (5"/!)" .#+.# [2AZ7

q q q q 7#>JJH7#n* ^T. 15,0CZ1 .!3" .‡.OC2"1 .1-" : (1/Oa#/(15%0(5#(#+(5.9"05#+.#!"1-, C 3.‡.O#1.#(+, -. .‡.O#5, T(O)"0#F) .5"3(") .\7#E1#G)0+*, 5./&5/)&\$75np+ /.\$4)^+*/%7/)"q*+ / 45.5&+./)7+;%<5&-no) ./&+ /4*) .)%<;#(+)/(+#FD#U7#8 .1-(FO;#j7#S7#G"3! .;#j)7;#j7#27# _3"! (") .# .1+#Z7#87#4 . / .1";#660K6R?7#G,0#A . ,30;#u. : „7

Z) .fh0;#P7#47#>J607#n2(+). 3"5: O#(#T03k/"-.5#(+, -."01 ."5#10#^) .5"3a#(i , .3"d.‡.O#(# . / . ‡.O#+O#(: T) (5) ."+O#-0: O#T)Oh (/O5#(: #+"5T, /.#T.) .#)# (&, 3. : (1/ .‡.O# +O#) (& : (#+ (#-03. FO) .‡.O\7#=#&\$75np+ /)?+7-)&5&)#OR#L6>Rl#n#1 Q1 KQJ>7

Z) (/-' (#87#>JJR7#n2(+). 3"5: O#(#T03k/"-.5#50-" .5#10#^) .5"37#A)OF3(: .5#+ (#-00)+ (C 1.‡.O#(#. , /O10: " .\7?#p+ /F5\$2+ /), /F)*.4)7<@5#6Q#L#n#61 K>?7

ZSg [7#>J6?7#nZ-. +(: "-#S. 1Y"1	#g 0)3+#[1"! ()5"/" (5\7#Z! ."3. F3(#. /# / /T#WW BBB75' .1&' ."). 1Y"1&7-0: W

` .3F. -' (!5YD;#*7;# .1+#G- ' B.)/d: .1;#G7#>J667#n^) .d"3a#+"! ()5#(^T() ("1-(#^1#^15"C /, /"01 .3#&0! ()1.1-(#^1#/' (#T, F3-# .1+#T)"! . /(#5(-/O)5\7#E1#M85%3-%3/A+@)*%5%7/ 5%&/ H5%53) ,)%< /-#/ B-38)^ / =&\$75<+%k/ <8) /F)*.4)7<@) . / +0/ ; 75& , J;#(+)/(+#FD# g7#b0-Y(;#g 7#4 , : "1&5.# .1+#U7#2"5") ;#0=K=?7#UO)+(-' /a#GT)"1&()7

` .) .FO5 .:#27#9%7;# .1+#X(3050;#27#>J6=7#n405/5# .1+#*-010: "#-# (1(9"/5#09#*+ , -."01\7# E1#=#&\$75<+% /-?/?+&-8/ ; ,)*-.75;#(+)/(+#FD#G7#G-' B.)/d: .1;#6==K61 Q7#b01+01a# ` 300: 5F,)D7

` .)) (D)0;#P7#^ 7#>JJQ7#H545/(&+ /)% .-%+ /.\$4)^+*/4* @5&+7#^) .5k3" .;#U2a#8 * 4WE< *A;# >JJQ7

` .) .5"37#6HQ07#

>=R# \$# S0F()/#*!.1#X() '*1(#.1+#bD5#87#X7#U.1/.5

`).5"3#>JJR7#")-/' sa/VUacdV_/&/V[/&)/51*-2/&)/TUU[a/L%.<<-/+/?-.) , 5/` 57-+%52/&)/
; @52-5np+&/5/= &\$75np+/?\$4)*+*/&/&q/+&\$^5/.4*+@&t%7-5.7#`).5k3".a# U"t)"O#_9"- .3#
+.#[1",07

q q q 7#>JJ07#")-/' s/VVAcZT_/&/TZ/&)/&E), 1*+&)/TUUca/")-/&+./-.<<-\$<./0)&)*5-.7#
) .5k3".a# U"t)"O#_9"- .3#+.#[1",07

q q q 7#>JJH7# H-%.a*+&/&5/= &\$75np+a/L%.<<-\$<+ /` 57-+%52/&)/ .-\$&+./)/F).N\$.5./
=&\$757-+%5-.a?/L` ; =?K/&5/7+%7)4np+V/*)3\$25np+;#=' #(+/"O17#`).5k3".a#E <* A7

q q q 7#>J607# H-%.a*+&/&5/= &\$75np+a/L%.<<-\$<+ /` 57-+%52/&)/ .-\$&+./)/F).N\$.5./
=&\$757-+%5-.a/M)% .+&/5=&\$75np+/?\$4)*+*/TUVT7#`).5k3".a#E <* A7

q q q 7#>J6R.7#")-/%+VeaUUW_/&)/TW/&)/m\$%8+&)/TUV[a/F25%+ /` 57-+%52/&5/= &\$75np+a/
; 4*+@5/+/F25%+ /` 57-+%52/&5/= &\$75np+ /f/F` =)/&/&q/+&\$^5/.4*+@&t%7-5.7#`).5k3".a#
U"t)"O#_9"- .3#+.#[1",07

q q q 7#>J6RF7#8"1"5/m)"O#+. #4*"51-. #(#@(-1030&".7#`).5"3a# U"5T\$1+ "O#1. -"O1.3#
(: #:"\$1-. #(#/(-1030&".#L4 t @N;#(: #:!.30)(5#-0)))(1/(5;#: #)(3.±.0#0#0/0.3#+(#
4 t @#(#.0#T)O+, /O#1"/(10#F), /O#LAE` N;#TO)#5(/O)#"15"/, -"O1.3;#>JJJK>J6>7#
Z! ".3.F3(#.## //TaWWBBB7: -/7&O!7F)W"1+(^7T` TW-01/(1/W!) (BW>H6RJW
) .5"3vU"5T(1+ "Ov1. -"O1.3v(: v-"(1-. v(v/(-1030&".v4v@v5, Tv6v5, Tvv(: v
! .30)(5v-0))(1/(5v(: v)(3. -.0v.0v/0/.3v+(v4v@v(v.0vT)O+, /Ov"1/(10v
F), /OvAE` vTO)v5(/O)v"15"/, -"O1.3# /: 3

4.3+.) (33;#47#*7;#4.: .); #87#S7#P7;#1+#A(O)+&,0;#47#>J6=7#E15"/, "%0(5#+(#(15"10#
5, T(O)"O#)#+(5(1!03!): (1/O#(-01<: "-0a#O#-.50#+.5#, 1!")O5#+.(5#(5+./, .5#
T.).(15(5/7#F25%)n5,)%<+ /)4+2#<75./4r12-75.:#RRa#Q=K66>7

4 ZA *G7#>J6?7#nP* _4 ZA *G#K#G"5/(. #+(#E190): .±%0(5#P(O))(9(O)(1- .+ .5/7#
Z! ".3.F3(#.## //TaWW&)(O-. T(57-. T(57&O!7F)W&(O-. T(5>W

4.)10D;#87;#bOD.3Y. ;#A7;#UOF)D.YO! .;#87;#UO55.1";#S7;#2)O, : "1;#E7;#.1+#] , ' 15#;
]7#>J607#O#%&).-J/=>45%.+%/-%/5/M85%3-%3/A2+152/=7+%, JK/R`-\$, 48/+0<8)/
! GLM.S#G/.190)+;#4Za#G/.190)+#[1"!)5"/D#A)(557

405/. ;#A7#b7#G7;#.1+#8").1+ .;#87#S7#27#Z7#>J667#*+ , -.±.0#G, T(O)"O#)#+(5(1!03! "C
:(1/O#10#*5/.O#+.#`.' ".a#; : #5/, +O#5OF)(#.5#, 1!")O5#+.(5#(5+./, .5#F.".1.57#
Z1."5#+O#E#4")-, /O#+(#U(F./5#Z-. +\$S: "-057#G.3! .+O)a#EA *Z;#TT7#6K>=7

405/. ;#X7# 87# 27#>J6J7#n2(+).3"5: O#(#)(3.±%0(5#1"/(O&O!)1.: (1/."5a#": T3"C
-.±%0(5#T.).#.#)(90): .#+.#(+, -.±.0#10#`).5"37#=#&\$75np+/?+7-)&5#)#06#L66>N#
I>HK1RQ7

4,)D;#47#S7#j7#>JJ07#nG"5/(. #<.-"O1.3#+(#*+ , -.±.0a#+(5.9"O#T.).#; : .#(+, -.±.0#
"&, .3"/t)".#>#9(+O)./!" \#=#&\$75np+/?+7-)&5#)#>H#L6J=N#66QI K6>JH7

4, 1' .#b7#Z7#6HQJ7#; /\$%&)/\$%&)*. -&5&)/<, 4+*p7#S"O#+(#j.1(")Oa#4"1"3"d.#.0#`).5"3(").7
q q q 7#6HQ07#; /\$%&)*. -&5&)/7#<757#S"O#+(#j.1(")Oa#2).1-"5-O#Z3! (57
q q q 7#6HQ07#; /\$%&)*. -&5&)/0+*, 5&57#S"O#+(#j.1(")Oa#2).1-"5-O#Z3! (57

`).d"3# \$# >==

U,)' .: ;#*7#>J6J7#n*+, -. †, 0#5, T(O"O)#TfF3"-.#(#T)"! .+. †#E1# †\./&).50+./&5/) &\$75np+/%+! *5.-2#(+)/(+FD#47#)0-Y;#.#.1+#G7#G-' B.)/d: .1;#6HI K>>R7#S"O#+(#j. 1(")Oa# <0! .#2)01/(").7

2ZA*GA7#>J6J7#%&-75&+*)/(&)/M-t#7-5/_R)7%+2+3-5)/L%+@5np+), /?p+/F5\$2+/TUVU7#G, O# A. , 30a#2, 1+. †, 0#+(#ZT0"O#S#A(5i , "5.#+0#*5/. +0#+(#G, 0#A. , 307

2(O)("). ;#Z7;# .1+#b(OT03+";# 87# Z7#>J607#nZ#-01")F, "†, 0#+. #, 1"! (O)5+. +(# TfF3"-.#T.).#.#"10! . †, 0#(#0#+(5(1! 03!": (1/O#)(&"01.3a#.#T(O)-(T†, 0#+(# &(5/0)(5#(#T(5i , "5.+0)(5\7#G)@.5/AQ; ""#?#L6Na#?JKQ>7#+0#a# //TaWW+^7+0"7 0)&W6J7=JJIW6HQOCR=0=>J60! ?16T?J7

2'.3' 0;#<7#%7#>J6>7n[1"! (O)5+. +.(5(5/.+. , "5#10#`).5"3a#T. , /.#T.).#.#-015), †, 0#+(# , : # 5"5/(. #1. -01.3#.)/"-. , 3.+0#+(#(+, -. †, 0\7#G)@.5/&5/6; ==! ; #>6#L0QNa#Q6KH07

2E*G7#>J6?7#nA)0&): .#+(#2"1.1-" : (1/O#*5/, +.1/"3\7#Z! ."3.F3(#./# //TaWW5"59"(SC TO)/.37: (-7&0!7F)W"1+(^7' /: 3

2<U*WGE_A*7#>J6R7#nG"5/(. #+(#"190): . †%o(5#50F)(#0)†: (1/O5#TfF3"-05#(: (# (+, -. †, 0#K#GE_A*7#Z! ."3.F3(#./# //T5aWWBBB791+(7&0!7F)W5"0T(W

P0: (5;#Z7#87#>JQJ7#nZ5#) (90): .5#T03"/"- .5#.#(+, -. †, 0#5, T(O"O)#10#`).5"3a#.! 1†05# (#) (-, 05\7#E1#G)0+*, 5./)/4+2#<75.K/) &\$75np+/. \$4)*+*)/4y.' 3*5&\$5np+/%+! *5.-2;#(+)/(+ # FD#U7#8. 1-(FO;#j7#S7#G"3! .;#j);#.#.1+#j7#27#_3"! ("). ;#>0K=67#4. : T"1.5a#Z3k1(.7

E` P*7#>J6J.7#n4 (150#U: (0&)†9"-0#>J6J7# S"O#+(#j. 1(")Oa#E` P*7#Z! ."3.F3(#./# BBB7#F&(7&0!7F)W"0: (W(5/. /"5"/"- .WT0T, 3. -.0W-(150>J6JW

q q q 7#>J6JF7#n401/.5#)(&"01."5#+0#`).5"37# 401/.5# <.-01."5#>J6J;#1#00\7# Z! ."3.F3(#./#9/TaWW9/T7#F&(7&0!7F)W401/.5vS(&"01."5W>J6JW-01/.5)(&"01C ."5">J6J7T+9

q q q 7#>J6R7#F)0-2&+./= .5&+./! *5.-)*+./TUVea/F).N\$.5/&)/-%0+*, 5no)./lq.-75./).5&' \$5-.7#S"O#+(#j. 1(")Oa#E` P*7

E<*A7#>J607#nG"10T5(#(5/. /k5"/"- .#+. #(+, -. †, 0#5, T(O"O)#>J60\7#Z! ."3.F3(#./# //TaWW TO)/.37"1(T7&0!7F)W5, T(O"O)C-(1505, T(O"O)C5"10T5(

q q q 7#>J6R7#nG"10T5(#(5/. /k5"/"- .#+. #(+, -. †, 0#5, T(O"O)7#P). , . †, 0#7# 4 (150# +.#*+, -. †, 0#G, T(O"O)#>J6R\7#Z! ."3.F3(#./# //TaWWTO)/.37"1(T7&0!7F)W

5, T(O"O)C-(1505, T(O"O)C5"10T5(

b(!D;#U7#6HQ?7#B-38)"*=&\$75<+%/5%&/-8)/?<5<)/-%/"' 5<-%/; ,)*-75k/F*-@5<)/M852)%)3)./ <+ /F\$12-7/: +, -%5%7)

>=?# \$# S0F()/*! . 1#X() ' 1(#. 1+#bD5#87#X7#U. 1/. 5

8. /05;#g7#S7#U(#8. - (+0;#] 7#Z7#G7#U(#t#8. //05;#E#P7#+(7#>J607#n6J#. 105#+(# . †%0(5# .9): . /! . 5#1. # [< *` af+(5(: T(1' 0#-0: T.) . /! 0#(1/) (#-0/5'. 5# (#1, 0# -0/05'. 5#+(#>JJ0#.#>JJH7#G)@. <5/&5/ ; ! F` #=#L66l#Q0KH7

8, &1. "1";#S7;#U"&. TT"/);#b7#Z7;# . 1+#8(1. C4' . 3-0;#S7#>6JR7#n40: , 1'- . †. 0# -"(1/k9"-.#10#"). .5"3#L6HHQK>J6>N#1+ (^ . †. 0#;-)(5"-: (1/0;#93, ^0#(#+"5T(5) 0, 0#7# R"5%. 0+*, 5np+#>?#LON#>OHK>=>7

<(! (5;#47#*7# 7;#S. "d(0);#b7;# . 1+#2. - ' 1(//0;#S7#27#>JJ17#nZ-(550;#(^T. 15, 0#(#(i , "C +. +(#10#(15"10#5, T(0)0#10! 05#+(5. 9"05#T.) . #. #T03k/'- . #(+, - . -"01. 3#F). 5"3(") . †# ?+7-+2+3-5. ;#H#L6l #a#6>RK6=17

< , 1(5;*7#__7#>J6>7#=#&\$75np+/. \$4)*+*%+! *5.-2K). <\$&+ _/&|5<_ . /7+#+%+@u*. -5. 7#S"0#+(# j. 1(")0#P.) . : 01+7

_ 4U7#>J6R7#=#&\$75<+%/5<5/325%7)/f/\ =M: /-%&-75<+. 7#A.)"5a#__ * 4U#A, F3"5" (57 q q q 7#>J6=7#=#&\$75<+%/5<5/325%7)/f/\ =M: /-%&-75<+. 7#A.)"5a#__ * 4U#A, F3"5" (57 __3!" (") . #S7#__7#>JJH7#nZ#). 1590): . †. 0#+. # (#+, - . †. 0#(: # : ()-. +0#) . #10#^) . 5"3"7# =#&\$75np+/?+7-)&5&#)0J#L6JQ#A#I OHKI ?J7

__3!" (") . #47;# . 1+#P. 1d(3";#A7#>J607#nS(3. †%0(5#1/()&0! ()1. : (1. "5#(: #(+, - . †. 0# 9, 1+05;# -01! \$1"05;# -0151) -"05# T f F3" -05# (# .) . 1h05#+(#+(5(1! 03! : (1/0#+. # (+, - . †. 0#7#=#&\$75np+/?+7-)&5&#)OR#L6>=#a#6J06K6JR17

A(+0)05. :#S7#%7;#Z: .) . 3;#*7;# . 1+#] 10F(3;#87#>J607#nZ55(55"1&#"&' ()#*+ , - . /"01# b()1"1#&__ /-0: (5#1"7" . d"3"7#B-38)*=#&\$75<+%/H5%53) ,)%<5%&/F+2-7#>R#L#N# =#K167

A(+0)05. :#S7#%7#b7;#G: %0(5#>#7#A7;#4.)1(")0;#Z7#87;#Z1+). +(#47#C7;#G: T. "0;# %7;# . 1+#] 10F(3;#87#>J6R7#nZ--(55#0#%#"&' ()#*+ , - . /"01#1"7" . d"3"7#C-&#)%-%3/ F5"<-7-45<+%/5%&/""-0)2+3/"')5"%-%3#6?#L6N#=#K007

A("0/0;#Z7#b7#Z7;#S"F(")0;#*7#87#` 7#Z;# . 5/05;#Z7#X7#` 7;# . 1+#S. : . 3' 0;#87#47#] 7#>J607#n40/ . 5#(#+(5(: T(1' 0#-. +S: "-0#1. # [2` Z# , : # (5/ , +0#.#T. /))# +05# -0(9"- (1/(5#+(#) (1+): (1/0#7#; %5- . /&+ /zLLL/M+2+NS-+ /L%<)*57-+5%2/ . +1"/A) . <p+ / Q%&)* . -<q*5/5% . / ; , / * -75. 7# 6K6=7# Z! . "3. F3(# . /# ' //T5aWW)(T05"0)"07, 95-7F)W ' . 1+3(W6>OR=?I QHW66RQ>>

A3. 1Y;#U7#<7;# . 1+#X() ' 1(;#S7#*7#>JJ>7#n23#&' /#9)0: #2)((+0: #S(5"5/ . 1-(#/0# E15"/ , /"01. 3#Z, /010: D#1"7^) . d"3"5#2(+ () . 3# [1"1(5)" /" (5"7#E1#B-38)* /=#&\$75<+%/ -%/-8)/ :)@)2+4-%3/C+*2&K/M85%3-%3/M+%<)><. /5%&/L% . <<5<+5%2/G. 4+%.) ;#(+ / (+#FD# U7#g7#4' . T: . 1# . 1+#Z7#*7#Z, 5"/1;#?HKH>7#g (5/T0)/ ;#4@#P)((1B00+#A) (557 A0)/. 3# @)"F, /†)"07#>J6?7#n@)"F, / (5"7# Z! . "3. F3(# . /# BBB7T0)/. 3)"F, / .)"07-0: 7F)W /)"F, /057' / :

A(. 3#t#b(: . 11#20, 1+ . /"017#>JJH7#N\) *7+ , -%3/L%)"<5S/ ; /G)4+<M5#&+%/=#&\$75<+%/ -%!/ "5E-2#G, 0#A. , 30#A(. 3Eb(: . 11#20, 1+ . /"017

A)0[1"7#>J6?7#nA)0& .) . # [1"1()5"+. +(#T.) . #@+057#Z! . "3. F3(# . /# //TaWWS"/(T)0, 1"7 : (-7&0! 7F)W

S(5;#j7#Z7#27;#8.) /"15;#S7#S7#S7;#P. "0;#j7;# . 1+#b0' : . 11;#b7#87#>J6R7#n*5) / , / .) . #+ . # (+, - . †. 0#5, T(0)0#F). 5"3(") . af, : #+ . &11 5/"-0#(5) . /m&"-0#50-" (/†)"0#7#G=#1 G; =f/ G)@. <5/! *5.-2)-5&/)= . <5u3-5#1 #L6N#Q0KH7

`).d"3# \$# >=1

G.: T."0;#%7#>J667#_#5(/O#T)!..+0#+(#(15"10#5, T()"0)#10#`).5"3a#-01/"1, "+.(5#(#
/).1590): .‡%o(5\7#G)@. <5/=%.%+/?\$4)*+*/Q%-75, 4#Ra#>QKR07

G.: T."0;#%7;#` .3F.-' (!5YD;#*7;#.1+#A(....3"d.#X7#6HHQ7#[1"! ()5#+.(5#(5/.+, ."5#10#
`).5"3#K#-.)-/()k5/"-.5#E15/"/, -"01."57#G,0#A., 30a# <f-3(O#+(#A(5i, "5.5#50F)(#
*15"10#G, T()"0);#[1"! ()5#+.(#+(#G,0#A., 307

G(--.#S7#u7;#.1+#b(.3;#S7#87#>JJH7#Z113"5(#+0#5(/O)#+(#(15"10#T)!..+0#10#`).5"3\7#
! ` : =?/?)<*-5#0J#6JOK6=?7

R8)/=7+%, -.<7#>J6>7#*+, -."/01#"1#`).d"37#G/, +D"1&#/' (#B0)3+7#Z#%, &(#G-' 03.)5' "T#
A)0&).: : (# 40, 3+# ` 005/# * -010: "-#P)0B/' \7# Z!. "3.F3(#. /#' //TaWWBBB7
(-010: "5/7-0: W10+(W>6==J0J?

q q q 7#>J6R7#n%"&' ()# *+, -."/01a# 4)(./"! (#U(5/), -"/01\7# Z!. "3.F3(#. /#' //TaWW

w@' (# `)"5' #-0301".3# .+: "1"5)/."01x#)(T3"-./(+#/' (# [1"! ()5"/D# 09#
b01+01#n9(+).3#, 1"! ()5"/D\#5D5/(: # "1#B' "-' #' (#, 1"! ()5"/D#5#. 1#.99"3"C
. /"1&#FO+D#90)#30-.3#-033(&5;# . 1+#)(TO)/5#/O#"/5#30-.3#&O! ()1: (1/7#@' (#
, 1"! ()5"/(5#)03(#B.5#/O#5, TTO)/#' (#&O.35#09#"/5#-015"/, (1/#-033(&5#
FD#+(5"&1"1&#-,))"-, 3; #' 03+"1&#(^. : "1."/015#. 1+#.B.)+"1&#+(&)(5#
L4.)10D#. 1+#UO55. 1">J60;#RN

Z5#B(#5' .33#5' 0B;#/' "5#: 0+(3;#B' ()(#, 1"! ()5"/(5#OT)./(#: ."13D#.5#.#
&O! ()1.1-(#5D5/(: ;# . 1+#)(3./"!(3D#3(55# .5#Y10B3(+&(#&(1)./"1&# . 1+#
+"55(: "1./"1&#O)/(.-' "1&#FO+"(5;#'.5#(.!"3D#"193, (1-(+#E1+" . 1#"&' ()#
(+, -. /"01#5D5/(: #, 1/"3#/' (#T)(5(1/#+.D7

E1#/' (#3./()#-0301".3#T()O+;#T)O!"1-".3#&O! ()1: (1/5#F(&.1#O#1!(5/#
"1#)(3./"!(3D# " &' Ci , .3"/D# " &' ()#(+, -. /"01;#521)-#01#.#3": "/(+5- .3(7#
@' (D#-)/(+5/./(#, 1"! ()5"/(5#B"/' #B' "-' #' (#-033(&(5#B()(.99"3"./(+7#
Z&."1;#/' "5#5(/5#.1#": TO)/.1/#T)(-+(1/a#A)O!"1-".3#&O! ()1: (1/5#B0, 3+#
/.Y(#/' (#3.+#"1#(^T.1+"1&#/' (# '&')#(+, -. /"01#5D5/(: c1 .#TO3"-D#)(1+#
/' ./#-01/"1, (5#/O#/O+.D7

__1-(#E1+.#F(-.: (#"1+(T(1+(1/#)O: #`)"/"5' #), 3(#"1#6HRI ;#/#F(-.: (#

>?J# \$#

E1+."#\$#>?6

>?># \$#j.1+' D.3.#`7#P7#@"3.Y

FD#/' (#,1"01#&0!()1: (1/#.1+#: ,5/#10/#": T(+(#/' (#^(-,/'! (#TOB()#
09#/' (#,1"01#B"/' "1#/' (#5/./(57#@' (#TOB()#09#.1D#5/./(#3(&"53./,)(#/0#

&O!()1: (1/#/./#)(#B' O33D#/. 159(). F3(#/O#/' (#5/./5#L(7&7;#(5/./(#+, /" (5;# / . ^ (5#O1#5.3(5# 1+##. ^ (5#O1#T,) -' .5(5#O9#1 (B5T.T)5N# 1+##(N#/. ^ (5#3(!" (+ # FD#/' (#, 1"O1#&O! ()1: (1/;#F, /#-O33(-/ (+# 1+##, 5(+##FD#/' (#5/./5#L(7&7;# (^-"5(#/./ ^ (5#O1# : (+-"1 (# 1+##/O"3(/)" (5N7

^ (5"+(5#5' .)"1&#/' (5(#/./ ^#)(! (1, (5;#/' (# 2"1.1-(# 4O: : "55"O1# #)O!" + (5#&). 1/5# 1+##3O. 15#/O#/' (#5/./ (57Z++/"O1. 3#&). 1/5# 1+##3O. 15#.) (# 1((+(+##F(-. , 5(;# 5#"1# .33#9(+). 3#5D5/(: 5;#10/#. 33#5/./ (5#' .! (#/' (#5.: (#)(! (1, (#) ."5"1&# - .T. -"/DV#/' (#, 1"O1#&O! ()1: (1/# .55, : (5#/' (#)O3(# O9#n(i, . 3"d"1&\# 1."/O1. 3# (-O1O: "-# 1+##5O-" 3#+(! (3OT: (1/# 1+WO)#O9# T)O: O/"1&#)(&"O1. 3#F. 3. 1-(+++(! (3OT: (1/7#E1#E1+" .;# 5#"1# .33#9(+). 3# 5D5/(: 5;#/' (#: (-' .1"5: 5#O9#)(! (1, (#5' .)"1&#;#/' (#T)"1-"T3(5# 1+##-)" /O)" =# . +OT/(+## 1+##/' (# : O, 1/5#+ "5)"F, /(+## .! (#O9/(1#F((1#5, Fh(-/#O9#+ "5-, 5C 5"O1# 1+##+ "5-O1/(1/#F /B((1#/' (#, 1"O1#&O! ()1: (1/# 1+##/' (#5/./ (57?

E193, (1-(+##FD#/' (#&(1(). 3# : O+(3# .+OT/(+##"1#/' (# [1"/(+##G/./ (5# 1+##/' (# %.) /OO: : " //((#) (-O: : (1+."/O1#"1#6H>H#"1#^)" /"5' #E1+" .;#/' (#9) .: C ()5#O9#/' (#E1+" 1#4O15"/, /"O1#O9#"1+(T(1+(1/#E1+" #/OOY# .#9, 1+.: (1/. 3# +(-"5"O1#/O#/) (. /#(+, -."/O1# .5# .#5/./ (#5, Fh(-/# 1+##/O#! (5#/' (#) (5"+, .) D# TOB()5#"1# (+, -."/O1#"1#/' (#5/./ (5#FD#5T(-"9D"1&#/' (#TOB()5#) (5) ! (+# 9O)#/' (#, 1"O1#&O! ()1: (1/7#*1)D#66#O9#b"5/#EE#O9#/' (#G(! (1/' #G-' (+, 3(# /O#/' (# 4O15"/, /"O1#3. D5#+O B1#/' . /#n(+, -."/O1#"1-3, +"1&#, 1"! ()5"/ (5;#

>?R# \$j.1+ D.3.# 7#P1#@*3.Y

?R;#?=#.1+##??"1#/' (# [1"01#b"5/#09#/' (#G(! (1/' #G-' (+, 3(#T)O!"+(#(^-3, C
5!"(#h,)"5+~-'/"01.3#-0: T(/(-(#/O#/' (#, 1"01#&O! ()1: (1/"#1#5T(-"9"(+#
) (.5;#5, -' #.5#- ()/."1#: , 5(, : 5#n09#1./"01.3#: TO)/.1-(\;#n-(1/).3# 1"C
!) ()5"/(5;#5, -' #.5# [1"!) ()5"/D#09#U (3' ";#.#.1+#0/' ()#, 1"!) ()5"/(5#.#.1+#"15"/C
/, /"015#09#/'(-' 1"-.#.1+#T)09(55"01.3#(+, -./"01#+(-3.)(+ #FD#A.)3": (1/#
/O#F(#09#1./"01.3#: TO)/.1-(#.#.1+#.&(1-"5#/' ./#+(/(): "1(#5/.1+.)+5#
90)#"15"/, /"015#09# #' &' ()#(+, -./"01#.#.1+#09#5-"(1/"9"-#)(5(.)-' 7#E1#.#+"C
/"01;#*1/D)#>J#09#/' (#401-,))(1/#b"5/#)(3./"1&#/#O#(-010: "-.#.1+#50-.#
T3.11"1&#(: TOB()5#/' (#, 1"01#&O! ()1: (1/#/O#/.Y(#.#T)O.-/'! (#)03(#"1#
&"!1&#+)(-/"01#/#O#(+, -./"01#"1#/' (#+(5)"(+#.) (.5#L8%SU#>J6?.;FN7

@', 5;#/' (#4015"/, /"01#+(9"1(5#(+, -./"01#.5#T)(+0: "1.1/3D#. #5/./(#
5, Fh(-;/#F, /#-()/."1#: .hO)#9, 1-/"015#.)(#"1-3, +(+"#1#/' (# [1"01#b"5#.#.1+#
.#9(B#.#5T(-/5#1#/' (#401-,))(1/#b"5/7#@' (#)(5;#5, -' #.5#5-' 003#(+, -./"01#
.#5.#B' 03(#.#.1+#0/' ()5;#B ()(#3"5/(+"#1#/' (#5/./(#3"5;#:# .Y"1&#.33#(+, -./"01#
!)/. .33D#.#)(5T015"F"3"/D#09#/' (#5/./(#@' (#)03(#09#/' (#, 1"01#&O! ()1: (1/#
"5#3: "/(+/#/O#T3.D"1&#.1#(1.F3"1&#)03(#"1#/'(): 5#09#(^/(1+"1&#/#O#/' (#5/./(#5#
-00T)./"01#.#.1+#5, TT0)/#09#!.)"0, 5#Y"1+5;#"1-3, +"1	"1.1-.#)(50,)-(57

Z3/' 0, &' #5-' 003#(+, -./"01#"5#.#5/./(#5, Fh(-;/#/' (#4015"/, /"01#
: .+(#.#.1#(^-(T/"01#"1#/' (#-.#5(#09#(3:(1/.)D#(+, -./"017#^(-.#5(#09#
/' (#T)-("!(+#)(3./"015" "T#F(/B((1#/' (#T)O!"5"01#09#, 1"!) ()5.3#9)(#.#.1+#
-0: T, 350)D#(+, -./"01#.#.1+#/' (#5, --(559, 3#BO)Y"1	#.#+(0: -).-D;#/' (#
4015"/, /"01#+(-"+(+/#O#"1-3, +(3:(1/.)D#(+, -./"01#.#5.#U")(-/'! (#
A)"1-"T3(#09#G/./(#T03"-D#, 1+())#A.)/#EX#FD#5/./"1&#/' ./#n@' (#G/./(#5'. .33#
(1+(!.0,)/#O#T)O!"+(#B"/' "1#.#T()"O+#09#/(1#D(.).5#9)O: #' (#-0: : (1-(C
: (1/#09#/' "5#4015"/, /"01#90)#9)(#.#.1+#-0: T, 350)D#(+, -./"01#90)#.#33#
-' "3+)(1#, 1/"3#/' (D#-0: T3(/(#/' (#.&(#09#6R#D(.).5#LZ)/"-3(#R=N;#B')(#
/' (#n5/./(\#"1#/' "5#-.5(#"1-3, +(5#/' (#, 1"01#&O! ()1: (1;/#5/./(#&O!) ()1C
: (1/5#.#.1+#30-.3#FO+)(57

^QE1#>JJ>#/' (#4015"/, /"01#B.5#.: (1+(+/#/O#:#.Y#(3:(1/.)D#(+, -./"01#.#
9, 1+.: (1.3#)"&' /#LZ)/"-3(#>6Zn;#0330B"1&#B' '-';#"1#>JJH;#/' (#1./"01.3#A.)3": (1/#
T.55(+##/' (#S'&' /#0#2)(#.#.1+#40: T, 350)D#*+, -./"01#Z-/#-0!) "1&#(3:(1/.)D#
(+, -./"017#^, /#90)#.#9(B#3": "/(+#OT/"015#:#.+(#.#.1.3.F3(#/O#/' (#5/./(#5#"1#": T3(C
: (1/"1&#/#5#!.)"0, 5#T)O!"5"015;#/' (#Z-/#"5#)/' ()#, 1"90): 3D#.TT3"-F3(#/O#.#3#5/./(#5#
.#.1+#, 1"01#/'())"O"*(57

G": "3.)3D#/#' (# 4015"/, /"01#: .Y(5#"/# .1#OF3"&./O)D#)(5T015"F"3"/D#
 09#/' (#, 1"01#&O!) ()1: (1/#/O#T)O: O/(#/' (#(+, -./"01.3#"1/) (5/5#09#/' (#
 B(.Y())#5(-/"015#09#/' (#TOT, 3./"01a#n@' (#G./(/#5' .33#T)O: O/(#B'/' #
 5T(-.3#-.) (#/' (#(+, -./"01.3#.1+#(-010: "-#"1/() (5/5#09#/' (#B(.Y())#5(-C
 /"015#09#/' (#T(OT3(;#.1+;#"1#T.)/"-, 3.);#09#/' (#G-' (+, 3(+#4.5/(5#.1+#/' (#
 G-' (+, 3(+#@)"F(5;#.1+#5' .33#T)O/(-#/' (: #9)O: #50-" .3#"1h, 5/"-(#.1+#.33#
 90): 5#09# (^T3O"/./"01#LZ)"/-3(#R?N#@"5#Z)"/-3(#"1#/' (# 4015"/, /"01#
 : .Y(5#"/#.#)(5T015"F"3"/D#09#/' (#, 1"01#&O!) ()1: (1/#/O#F)"1&#.FO, /#
 (i, .3"d./"01#09#(+, -./"01.3#OTTO)/, 1"/(5#"1# .33#T.)/5#09#/' (#-0, 1/)D#
 .1+;#/O#/' ./#(1+;#/O#&"! (#5T(-.3#.55"5/.1-(#/O#/' (#TOT, 30, 5#5.//(5#.1+#/O#
 +*5. +! .1/.&(+#L3(55#+(! (30T(+N#5/. / (57

@' (5(#: .hO)#(^-(T/"015#09#.55,)"1#&#T)O!"5"01#09#9)(#.1+#-O: T, 3C
 50)D#(+, -./"01#LZ)"/-3(#R=N;#(i, .3"d./"01#09#(+, -./"01.3#OTTO)/, 1"/(5#
 F(/B((1#+*99() (1/#&(O&).T' "-.3#.) (.5#O)#+*99() (1/#5(-/"015#09#50-"/D#
 LZ)"/-3(#R?N#.1+#5.9(&, .)+*1&#/' (#-, 3/, .) .3#"1/() (5/5#09#/' (#: "10")/D#.1+#
 T)O!"5"01#09#.+(i, ./(#9.-"3"/(5#/O#) (-(! (#./#3(.5/#T)": .)D#(+, -./"01#"1#
 /' (")#OB1#: O/' ()#01&, (#LZ)"/-3(#O=JZN#&"! (#-015"+).F3(#TOB) #/O#/' (#
 , 1"01#&O!) ()1: (1/#"1#(+, -./"01.3#T)O!"5"01#! (1#5#/' (#4015"/, /"01#
 90): .33D#.55"&15#h,)"5+~/"01#/O#/' (#5./(/#O!) (#/' (#(+, -./"01#5D5/(: 7

2,)/ ()#/' (#, 1"01#&O!) ()1: (1/#-015"+() (+#/' ./#'"&' ()#(+, -./"01#

>??# \$#j.1+' D.3.#` 7#P1#@'3.Y

(-010: "-#.1+#50-.3#+(! (30T: (1/#09##' (#1./"017#P"! (1#/' ./#(-010: "-#
.1+#50-.3#+(! (30T: (1/"5#"1/": ./ (3D#) (3./(+#/0#5(! () .3#5(-/0)5#"1-3, +C
"1&:#5T(-"9"- .33D# (+, -./"01;#/' (#, 1"01#&0! ()1: (1/"5#&"! (1#.#: .hO)#
) (5T015"F"3"/D#90)#(+, -./"01.3#T03"- "(57

Z-/, .3#T03"-D#55, (5#.1+#T3.15#) (3./"1&#/0#1./"01.3#+(! (30T: (1/#T3.1#
) (#+"5-, 55(+#.1+#.TT)0! (+#"1#/' (#<./"01.3#U(! (30T: (1/#40, 1-"3;#.1#
"1/()5/./ (#-0, 1-"3#5(/# , T#"1#6H=>#/')0, &' #.1#(^(-, /"! (#0)+()#.5#.#101C
5/./, /O)D#FO+D;#-015"5/"1	#/' (#.33#5/./ (5#L-' "(9#: "1"5/()5N#.1+#, 1"01#
/())"0)"(5#.301&#B"/' #/' (#A)": (#8"1"5/();#/' (#, 1"01#-.F"1(/#: "1"5

E15"/,/(#09#_T(1#G-' 003"1&#/' (# [1"! ()5"/D#P).1/5#40: : "55"01#
L[P4N;#/' (#E1+" .1#40, 1-"3#09#GO-" .3#G-"(1-#S(5(.)-' :#/' (#E1+" .1#
40, 1-"3#09#%5/0)"-.3#S(5(.)-' :#/' (#E1+" .1#40, 1-"3#A" "3050T" "-.3#
S(5(.)-' :#/' (#1./"01.3#T)09(550)5' "T#.1+#1./"01.3#5-' 03.)5' "T5;#.33#
, 1+0#/' (#(^-3, 5!" (#h,)"5+"-/"01#09#/' (#, 1"01#&O! ()1: (1/7#@' (#
)5T015"F"3"/D#09#9"1.1-"1&#T3.11"1&#": T3:(1/./"01#.1+# (!)D#
.5T(-/#09#/' (5(#"15"/,/"015#.1+#T)O&).: : (5#3"(5#B"/' #' (#, 1"01#
&O! ()1: (1/7

●# R8)/7)%<52J/.4+%.*&./)7<+*#;"1-3, +"1&#/'(: 5W.)(.5#B' ()(#/' (#, 1"01#
&O! ()1: (1/#.55. : (5#)(5T015"F"3"/D#09#T3.11"1&W+(! (30T: (1/W+(5"81#
.1+#9, 1+"1&#.1+#/' (#5./(#&O! ()1: (1/#5#)(5T015"F3(#9)(#(^(-,/"01#
0)#": T3:(1/./"01#;#.)(#5#90)#B' "-' #' (#5./.(5#+0#10/#1(-.55.)"3D#
.--(T/#)(5T015"F"3"/D#01#/' (")#OB17#@' (#, 1"01#&O! ()1: (1/#T)C
5, .+(5#/' (#5./.(5#/#O#.--(T/#)(5T015"F"3"/D#90)#/' (")#": T3:(1/./"01#
.1+#/' (D#.)(#10): .33D#6JJ#T()#-(1/#9, 1+(+FD#/' (#, 1"01#&O! ()1C
: (1/7#^ ^: T3(5#1-3, +(T)O: 0/"01#09#G.15Y)"/;#%"1+#"1#101C%"1+#
5T(.Y"1/./.(5#.1+#T)O: 0/"01#09#5/, +(1/5#/#O,)5#.1+#(^-,)5"0157

●# R8)/7)%<52J/5...&./)7<+*#;"1-3, +"1&#T)O&).: : (5#"1#B' "-' #' (#
, 1"01#&O! ()1: (1/#"5#.-/"! (3D#"1/()5/(+;#F, /#B' "-' #.)(#(: FO+"(+
"1#5/./(#T3.15#.1+#90)#B' "-' #'9"1.1-"1&#)(5T015"F"3"/(5#.)(#5' .)(+FD#
' (#, 1"01#.1+#/' (#5./(#&O! ()1: (1/#"1#!)D"1&#T)O)T)/"015#L(1&7;
(1)O3: (1/#09# .1+-.TT(+#5/, +(1/5#"1#/' (#"1/(&)./(+5-' 0035N7

__!()#/' (#D(.);#/' (#+"5/"1-/"01#F(/B((1#-(1/).33D#5T0150)(+5-' (: (5#
.1+#-(1/).33D# .55"/(+#5-' (: (5#+5.TT(.)(+;#.1+#/' (5(#5-' (: (5#.)#
)9(O)(+##/O# .5#-(1/).33D#5T0150)(+5-' (: (5#@" (#!)O)D#T,)T05(#09#-(1C
) .33D#5T0150)(+5-' (: (5#"5#/#O#, /"3"d(#/' (#9"1.1-" .3#)(50,)-(5#09#/' (#, 1"01#
&O! ()1: (1/#.1+#/' (#.+: "15)/."! (#: .-' "1)D#.! "3.F3(#"1#/' (#5/.(5#
L4' ./,)!(+##>J66;#?ON;#5T(-"9"- .33D#"1#/' (#-.5(#09#/' 05(#.-/"!/"(5#/' ./
' (#, 1"01#&O! ()1: (1/#-015"+)5#": TO)/.1/#90)#/' (#-0, 1/)D;#5(O)"1&
+"99(O)(1/#1./"01.3#&O.355#, -' #.5#1./"01.3#"1/(&)./"01#;#1"90): "/D#.1+#
1./"01.3#3(! (3#5/.1+.)+5#g"+(#"1/()5/./(#! .)"/"015#/' ./#B0, 3+#)(5, 3/#"1#

5(-01+.)DW" '&' ()5(-01+.)D#(+, -./"01#/#B' "-' #.33#&O! ()1: (1/#5-' 0035#"1#/' (#5/.(#
) (# .99"3"/(+#7A)!"!/(#5-' 0035#"1#/' (#5/.(5#'.! (#.1#OT/"01#/#O#&(/# .99"3"/(+#/O#("/' ()
' (#5/.(#FO.)+0#) #' (#-(1/).3#FO.)+7#P(1) .33D#/' (#4`G*#5D33.F, 5#"5#90, 1+#/O#F(#
09#" '&' #i , .3"/D#.1+#5/.1+.)+5;#.1+#' (1-(#.#&00+#1, : F)09#" '&' #i , .3"/D#T)"!/(#
5-' 0035#OT/#90)#.99"3"/"01#B"/' #' (#4`G*#"15/.(+#09#B"/' #.#5/.(#FO.)+7

>?0# \$j.1+ D.3.# 7#P1#@3.Y

5, -' #. -/'!"/(5;#9#10/#.//(1+(+FD#/' (#, 1"01#&O! ()1: (1/;#.)#(&.)+(+#
.5#, 1+(5").F3(7

%OB(! ();#O! ()#/' (#D(.).5;#/' (5(#-(1/).3#5-' (: (5#90): (+#.1#.)(.#O9#
/(15"01#"1#/' (#, 1"01K5/./(#)(3./"0157#@' (#5/./5#)(5"5/.1-(#.1+#)(5(1/C
: (1/#B.5#: ."13D#+, (#/' (#3.), : F()#O9#-(1/).3#5-' (: (5;#: .1D#O9#
'"&' #-O5;/#+(5"&1(+FD#/' (#, 1"01#&O! ()1: (1/#: ."13D#"1#.)(.5#(1, :)C
./(+#"1#5/./((W-O1-,))(1/#3"5/#O9#/' (#4O15"/, /"O1;#F, /#)(i, ")1#": T3(C
: (1/./"O1#FD#/' (#5/./57#@' (5(#5-' (: (5#.)#-)"-d(+#.5#)(+, -"1/./(#
., /O10: D# .1+#10/#.330B"1&#: , -' #)(#&"O1.3#93(^"F3"/D7#2,)/' ()#/' (D#
) (i, ") (+#: ./- "1	, 1+"1&#/' ()(90)(#5/). "1"1/./#F, +&(5# .1+#90)-"1&
5/./5(#O#)(+)(-/#9, 1+5#9)O: #5/./C"1"/./(+#T)O&).: : (57

E1+(T(1+(1/#E1+"#1')"/(+#9)O: #/' (#-0301".3#T.5/#.#' "&')#(+, -./"O1#
5D5/(: #' /.#B.5#3": "/(+#/O#. #: "1, 5-, 3(#T)- (1/ &(#O9#/' (#-033(&#.#&#
TOT, 3./"O1q "1+(+;#/' (#(1/"#E1+" .1#(+, -./"O1#5D5/(: #' .#.#1.)0)OB#
F.5(#O9#5/, +(1/57#U,)"1&#/' (#-0301".3#T()O+;#9)O: #6Q=I#O#6HRI ;#F.) (3D#
>J#, 1"! ()5"/" (5#B ()(#5(/#, T7#@' ()#B ()(#3(55#/' .1#=#JJ#-033(&(5#"1#6HRI #
B' (1#/' (#-0, 1/)D#F(-.: (#"1+(T(1+(1/#B'/' #.#5/, +(1/#TOT, 3./"O1#
: , -' #F(30B#>JJ#/' 0, 5.1+7#U,)"1&#/' (#3.5/#5(1(1#+(-+(5;#E1+"#.' .5#
: .+("#: T)(55"! (#T)O&)(55#"1#/)(): 5#O9#(^T.15"01#O9#" '&')#(+, -./"O17#
@O+.D;#/' (#E1+" .1# '&')#(+, -./"O1#5D5/(: #5#/' (#5(-01+#3.)&(5#"1#/' (#
BO)3+#B"/ #1HH#, 1"! ()5"/" (5;#1(.).3D#RJ;JJJ#-033(&(5#.1+#OR#: "33"O1#
)(&, 3.)#5/, +(1/5;#B' O#9O): #>R70#T()- (1/#O9#/' (#6QK>O#D(.).5#.&(#&)O, T#
TOT, 3./"O1#L&)O55# (1)O3: (1/#O9#/' (#-0, 1/)D7#@' (#' '&')#(+, -./"O1#
5D5/(: #(: T3OD(+#.TT)O^": ./ (3D#67=#: "33"O1#/' (-')5#"1#>J6=K>J6?7

@' (#5D5/(: #5# .35O# ' "&' 3D# -O: T3(^7#@')(#5#.#B"+(#!.)"/D#O9#
' "&')#(+, -./"O1#"15"/, /"O15#"1-3, +"1&# -01! (1/"O1.3#, 1"! ()5"/" (5;#
-033(&(5#.1+#5T(-.3#-./(&O)"(5#O9#, 1"! ()5"/D# (i, "!.3(1/#"15"/, /"O157#
@' (#: ."1#-./(&O)"(5#O9#, 1"! ()5"/D#.1+#, 1"! ()5"/DC3!(3#"15"/, /"O15#
)#-(1/).3#, 1"! ()5"/" (5;#5/./(#, 1"! ()5"/" (5;#+((: (+C/OCF(#, 1"! ()5"/" (5;#
1./"O1.3#"15"/, /"O15#O9#": TO)/.1-(#.1+#O/')# , 1"! ()5"/DC3!(3#"15"/, C
/"O157#Z#-(1/).3#, 1"! ()5"/D#"5#.#, 1"! ()5"/D#(5/.F3"5' (+#O)#"1-0)TO)./(+#
FD#.1#Z-/#O9#/' (#, 1"01#&O! ()1: (1/7#@' (#, 1"01#&O! ()1: (1/#T)O!" +5#

&).1/5#/O#/' (# [P4#.1+#(5/.F3"5' (5#-(1/).3#, 1"! ()5"/"(5#.1+#"15"/, /"O15#
O9#1./"O1.3#": TO)/.1-(#"1#/' (#-0, 1/)D7#Z#5/./(#, 1"! ()5"/D#"5#. #, 1"! ()C
5"/D#(5/.F3"5' (+#O)"#1-0)TO)./(+#FD#. #5/./(#Z-/7#Z#T)"! ./(#, 1"! ()5"/D#"5#
(5/.F3"5' (+#/')O, &' #.#5/./(W-(1/).3#Z-/#FD#. #5TO15O)"1&#FO+D;#/' ./#"5;#. #
5O-"/D#(&"5/() (+#, 1+ ()#/' (#GO-" /"(5#S (&"5/). /"O1#Z-/#O9#6Q?J;#O)#. 1D#
O/' ()#-0))(5TO1+"1. B#-,))(1/3D#"1#9O)-(#"1#. #5/./(#O)#.#T, F3"-#/, 5/#O)#
.#-0: T. 1D#)(&"5/() (+#, 1+ ()#G(-/"O1#>=#O9#/' (#4O: T. 1"(5#Z-;/#6H=?7#
E1#. ++/"O1;#/' ()(#.)(#/')((#O/')#DT(5#O9#, 1"! ()5"/D#3(! (3#"15"/, /"O15#
Z#n+((: (+C/OCF(#, 1"! ()5"/D#)(9()5#/O#. 1#"15"/, /"O1#/' ./#' .5#F((1#5O#
+(-3.)(+#FD#/' (#, 1"O1#&O! ()1: (1/#, 1+ ()#G(-/"O1#O#O9#/' (# [P4#Z-;/#
6H=?7#@' (#, 1"O1#&O! ()1: (1/#"5#.35O#)(5TO15"F3(#9O)#+(-3.)"1&#. 1#(+, C
-./"O1.3#"15"/, /"O1#.5#n+((: (+C/OCF(#, 1"! ()5"/D#O1#/' (#)(-0: : (1+.

1. **7.2 All Universities, by Type, from 2007–2008 to 2015–2016**

| T | JR | 2007 2008 | 2011 2012 | 2015 2016 |
|---------------------------------------|----|------------|------------|------------|
| Central Institutions | | | | |
| Central Universities | | 28 | 42 | 43 |
| Govt. Deemed Universities (see below) | | | 39 | 43 |
| Central Open Universities | | 1 | 1 | 1 |
| Institutions of National Importance | | 33 | 59 | 75 |
| Others | | – | – | 6 |
| State Institutions | | | | |
| State Public Universities | | 222 | 284 | 329 |
| State Deemed Universities | | 102* | 91 | 32 |
| State Open Universities | | – | 13 | 13 |
| Institutions under State Legislation | | 5 | 5 | 5 |
| State Private Universities | | 16 | 105 | 197 |
| Private Deemed | | – | – | 79 |
| Universities-aided | | – | – | 11 |
| Private deemed (unaided) | | – | – | 79 |
| State Private Open Universities | | – | – | 1 |
| Others | | – | 3 | 13 |
| Total | | 406 | 642 | 799 |

Sources: Total

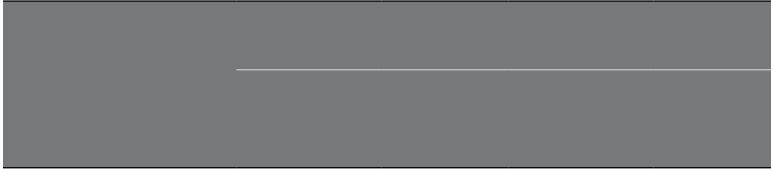
&O! ()1: (1/#-033(&(5;#&O! ()1: (1/C."+(#T)"!./(#-033(&(5#.1+#T)"!./(#, 1."+(+#O)#(39C9"1.1-"1&#-033(&(57#*! ()D#-033(&(5#1(- (55.)"3D#.99"3"./(+#/O#O1(#T, F3"-q -(1/).3#O)#5/./(#, 1"! ()5"/D#O)#O/' ()7

*^-(T/#9O)#.FO, /# 6JJ#-033(&(5#.99"3"./(+#/O#LO)#-015"/, (1/5# O9##>KO#-(1/).3#, 1"! ()5"/(5;#1.: (3D;#/' (# [1"! ()5"/D#O9# U (3' ";#` .1.).5#

%"1+,#[1"! ()5"/D#.1+#Z3"&.)' #8,53": #[1"! ()5"/D;#.33#0/' ()#-033(&(5#
"1#E1+ ".#.)(#.99"3"./(+ #B"/' #5./(/(#, 1"! ()5"/"(57#E1#.33;#-(1/).3#"15"/, /"O15#
)#)(3./!(3D#! ()D#9(B#"1#1, : F()q 6?>#, 1"! ()5"/D#.1+#, 1"! ()5"/D#

>l># \$#j.1+' D.3.#` 7#P7#@"3.Y

1. **7.3** *Enrolment and Gross Enrolment Ratio in Higher Education,*



1. 7.3 (Continued)

| S | A | | A | |
|---------------|-----------------|---------|-----------------|---------|
| | 2002 2003 | | 2014 2015 | |
| | EB ^r | % 18 23 | EB ^r | % 18 23 |
| (000) | 0 | (000) | 0 | |
| Uttar Pradesh | 1,177.8 | 7.03 | 5,219.7 | 22.1 |
| Uttaranchal | 115.3 | 12.25 | 394.8 | 34.9 |
| West Bengal | 648.2 | 8.21 | 1,677.7 | 17.1 |
| Chandigarh | 33.9 | 26.68 | 65.7 | 55.6 |
| Pondicherry | 18.2 | 17.88 | 58.0 | 45.8 |
| All India | 9,227.8 | 8.97 | 29,383.8 | 23.6 |

Sources:

>IR# \$#j.1+' D.3.#`7#P7#@`3.Y

.)(.#3"Y(#&(1().3#, 1"! ()5"/D#(+, -./"01;#/(-' 1"- .3#(+, -./"01;#/(.-' ()#
(+, -./"01#.1+#50#017#GO: (#09#/' (5(#5/./, /O)D#T)09(55"01.3#-0, 1-"35#.)(#
)5T015"F3(#90#) (-0&1"/"01#09#-0,)5(5#09#5/, +D;#T)O: 0/"01#09#T)09(5C
5"01.3#"15"/, /"015;#.1+#T)0!"+"1&#&).1/5#.1+#)(B.)+57

g' ./#.)(#/' (#)&(3./0)D#.&(1-"(5r#@' (#, 1"01#&0! ()1: (1/#(5/.FC

E1#/' (#9)5#/B0#+(-.(5# .9/()#"1+(T(1+(1-(;#/' (#, 1"01#&O! ()1: (1/# , 5(+##/5# 4015//, /"01 .33D#&, .) .1/((+#TOB()5#/O#(5/.F3"5' #' '&' #i , .3"/D# -(1/).3#"15//, /"015;#5, -' #.5#/' (#EE@5;#EE85;#.1+#5-(1-(#.1+#)(5(.)-' # 3.FO)./O)"(57E/5#"1/() (5/#"1#/' (#i , .3"/D#.1+#5/.1+.)+5#"1#, 1"! ()5"/D#(+, C -. /"01#B.5#-3(.)#B' (1#"#5(/#, T#/' (#[1"! ()5"/D#*+, -. /"01#40: : "55"01# ": : (+."/(3D#.9/()#"1+(T(1+(1-(#"1#6HRQ;#/' (#[P4#"1#6H=?;#.1+#O/' ()# "15//, /"01576>

G(-01+;#/' (#, 1"01#&O! ()1: (1/#(5/.F3"5' (+#)(&, 3./O)D#.1+#9, 1+"1&# F0+"(5#5, -' #.5#/' (#[P4#O#(15,)(#-00)+"1. /"01;#i , .3"/D#.1+#5/.1+.)+5# "1#/' (#' "&' ()#(+, -. /"01#5D5/(: 7#20)#/' (#5.: (#T,)T05(#09#F(//)T3.1C 1"1&;#-00)+"1. /"01#.1+#: . "1/(1.1-(#09#i , .3"/D#.1+#5/.1+.)+5#"1#+ "99)C (1/#.)(.5#09# " &' ()#(+, -. /"01;#"1-3, +"1&#"1#50: (#-.5(5#)(3. /"1&#O#/' (")# -01-()1(+T)09(55"015;#5(!).3#)(&, 3. /"1&#FO+"(5#B()#5(/#, T7#@' ") +;#/' (# -(1/).3#"15//, /"015#B()#(3. /"1 (3D#B(33#9, 1+(+;#B'/' #/' (#&O! ()1: (1/# T.D"1&;# : 05/3D#/')0, &' #/' (#[P4;# .33#-.T"/.3#.1+#0T(). /"01.3#-05/57 @' (5(#"15//, /"015#B()#(1-0,).&(+#/O#./).-/#.3(1/(+#9, -. 3/D#.1+#/O# +(!O/#/' : (#.1+#)(50,)-(5#/O# " &' #i , .3"/D#)(5(.)-' #.1+#' "&' #i , .3"/D#

>! ?# \$# j. 1+ ' D. 3. # ' 7# P! # @ ' 3. Y

FD# /' (#5/./ (5#T)": .) "3D#90) #' /' (# (^T. 15"01#09#5/./ (#5D5/(: 5#09# ' "&')#
£+, -. /"01# . 1+#013D#5(-01+.) "3D#90)#i , .3"/D#) (3./ (+#T)0&). : : (5#B' "3(#
5/./ (#9, 1+5#B() (#./) & / (+#90) #' /' (# : . "1/(1. 1- (#09# /' (# "15"/, /"0157

U,) "1&# /' (#3. 5/#5(!) .) 3#+ (-. + (5#FO /' #' /' (#, 1"01#&0!) 1): (1/#. 1+ #' /' (#
5/./ (5#+") (-3D# (^T. 1+ (+# " &')# (+, -. /"017# ` , /# /' (#, 1"01#&0!) 1): (1/#5#
90-, 5(+ #01#T)0+, - "1&#&). +, ./ (5#09# . + (i , ./ (#1 , .3"/D# /O# : ((/# /' (#1 ((+5#
09# /' (# "1+ , 5/). "3'd (+# (-010 : D# /' . /#B. 5#D (/# /O# (:) & (#. # -015+) . /"01#
B' - ' #B. 5#T.) /3D#5' .) (+#FD# /' (#5/./ (5# . 5#B (337#_ 1# /' (#0 /')# ' . 1+ ;#5/./ (5#
90, 1+ # (^T. 15"01#09# ' "&')# (+, -. /"01q T, F3- #. 5#B (33# . 5#&0!) 1): (1/C
5, TT0) / (+#T) ! . / (q : 0) (# T03 /" - . 33D#) (B. .) + "1&# . 1+ #' (1- (# . +0T / (+
TOT, 3.)# : (. 5,) (#09# (^T. 1+ "1&# & (1) . 3; #3 (55# (^T (15! (# . 1+ # (! (1#30B#
i , . 3"/D# " &')# (+, -. /"01# "15"/, /"015#L4.) 10D# . 1+ #U055. 1" #> J60N7

@' (# / (15"01#F (/B ((1# /' (#1 ((+ # /O#) (5T01+ # /O# + (: 0-) . /" -#T) (55,) (5#
90) # (^T. 15"01#09# n : . 55# ' "&')# (+, -. /"01# . /# /' (#5/./ (#3(! (3# . 1+ #' /' (#
1 ((+ # /O# : ((/# n1. /"01. 3#OFh (- /" ! (5#FD# + (! (30T "1&#B (33C9, 1+ (+ ;# ' "&' C
i , . 3"/D# " &')# (+, -. /"01# "15"/, /"015# . /# /' (# - (1/). 3#3(! (3# : . 1. & (+#FD#
 /' (# [1"01#8 "15/) D#09# *+, -. /"01# . 5#B (33# . 5# , 5"1&# - (1/). 3# . & (1- " (5# /O#
) (& , 3./ (#5/ . 1+ .) +5#90) #' (#T00) (Ci , . 3"/D# , 1" !) 5" /" (5#; , 1#FD# /' (#5/./ (5#
 ' . 5#-01 /"1, (+ # /O# /' (#T) (5 (1# + . D#B' /' "1# /' (# -01 / (^ /#09#E1+ " . \5# . 5D : C
 : (/) " - #9 (+) . 3#5D5 / (: 7

g " /' #&0!) 1. 1- (#5/), - /,) (5#-01 /) 033 (+#FD#30- . 3#T03 /" - . 15# . 1+ #TOT, C
3.) #T) (55,) (5#; #. 1+ #B' /' #' 1-) (. 5"1&#F, + & (/.) D# -015/). "15/#5/./ (5#9"1+ #10#
 - ' 0" - (#F, # /O# -01 /"1, (# /O# (^T. 1+ # " &')# (+, -. /"01; #T (- "9" - . 33D#T) ! . / (#
 , 1. + (+# -033 (& (5# . 1+ # , 1" !) 5" /" (57#E1# ! " (B#09#5(!) (#) (50,) - (# -015/). "15/#
 /' (#, 1"01#&0!) 1): (1/# . 5#& " ! (1# / . - /# . TT) O! . 3# /O# /' (#5/./ (5# /O#T) : /#
 : . h0) #&) 0B /' #5, - ' #T) ! . / (# "15"/, /"015# . 1+ ;# . /# /' (#5 : (# /' : (# / . - /3D#
 . TT) O! (+ # "1-) (. 5 (5# "1# -05/#) (-O!) D# /') 0, &' #5/ , + (1/#9 (5# . 1+ #5/ , + (1/#
 30. 15# "1#FO /' #5/./ (# . 1+ # - (1/). 3# "15"/, /"0157# @' (#) (5, 3/# . 5#F ((1# . 3: 05/#
 , 19 (/) (+ # (^T. 15"01#B' /' 0, /#) (& .) + #90) #&) (. /) # (i , " /D#0) #i , . 3"/D7

@' (#, 1"01#&0!) 1): (1/#. 350# ' . 5# . #) (5T015"F"3"/D# /O#T) O : O / (# /' (# "1 /) C
(5/5#09#+ "5. + ! . 1/ . & (+#&) 0, T5#L- . 5/ (5#N# . 1+ # /' (")# (-010 : " -#0TTO) /, 1" /" (57#
 Z5# "1#O /')# -0, 1 /" (5q `) . d"3; # 8 (^" -0# . 1+ # /' (# [1 / (+ #G / (5q /' (#

, 1"01#&O! ()1: (1/"1#E1+"#.) (5T01+(+/O#/' (#+(: .1+5#09# : .) &"1.3C
"d(+&#)O, T5#90)#&)(./)##. --(55#/O#' "&' ()#(+, -. /"017#@' (#4015/'/, /"01#
T)O! "+(5#90)#) (5)! . /"01#Li , O/ .5N#09#.#&00+#T)OT0)/"01#09# .+: "55"015#
"1#' "&' ()#(+, -. /"01#/#O#- ()/. "1#-.5/(#&)O, T5#3"5/(+#.5#5-' (+, 3(+##-.5/(5;#
5-' (+, 3(+##)"F(5#1+#0/')#F.-YB.)+#-0: : , 1"/(5#L_` 4N7⁶⁰#A.)3" : (1/#
: .+(#3.B5#-)(./"1&#i , O/ .5#90)#+"5. +! .1/.&(+##-.5/(5#1#FO/' #T, F3"-#1+#
T)!"! ./(#15/'/, /"015;#1-3, +"1#(: T3OD: (1/;#1+#)(i , ") (+#5/./ (5#/#O#5/(#
3OB()#5/.1+.)+5#90)#.+: "55"01#1+#3OB()#/, /"01#)./(5#90)#5, -' #5/, +(1/57#
` .5(+#01#T0T, 3./"01#-0: T05"/"01;#5-' (+, 3(+##-.5/(5# ' .!(#6=#T)#-(1/#
) (5)! . /"01;#5-' (+, 3(+##)"F(5#17=#T)#-(1/;#_` 4#>1#T)#-(1/;#T' D5"- .33D#
-' .33(1&(+##J70#T)#-(1/;#90)#.#/O/.3#09#RH7Q#T)#-(1/7#_!)#/' (#D(.)5;#
/' (#O! () .33#5"d(#O9#/' (#) (5)! (+##-./ (&O)"(5#1#/#O/.3# .+: "55"015#1#" "&' ()
(+, -. /"01#" .5#1-)(.5(+7#2,)/' ();#/' (#4015/'/, /"01#09#E1+"#.#L6H=JN# .+#
T)O! "+(+90)#013D#.#6JCD(.)#) (5)! . /"01#T)"O+;# , T#/#O#6H?J;#F, /#/'# .5#
F((1#-01/'1, (+##1+(9"1"/(3D7#XO/"1&#F30-#T03"/"-5#5#F(3" (! (+/#O#F#/' (#
: ."1#9.-/O)#) (5T015"F3(#90)#/' "5#5"/, . /"01 q FO/' #90)# (^/(15"01#09#/' (#
-305"1&#+. /(#.1+#90)# (^T.1+"1&#/' (#&)O, T#09#nF.-YB.)+#-3.55(5#L5((#
P, T/.#>JJ?N7

E1# .3: 05/# .33#-.5(5#30B()#- , /CO995#"1#(1/).1-(#/(5/#5-0)(5#.) (#, 5(+
90)#.+: "55"01#09#/' (5(#5/, +(1/57#Z++/"01.3#5, TTO)/#"5# : .+(#.! ."3.F3(#1#
/(): 5#09#(^).#/(.-' "1&#"1# : .1D#T, F3"-#15/'/, /"015#.5#B(33#.5#5, TTO)/#
"1#/' (#90): #09#5T(-.3#(+, -. /O)5#.1+#) ('.F"3"/. /"01#T)O9(55"01.35#L9O)#
T' D5"- .33D#-' .33(1&(+#5/, +(1/5N7

>1Q# \$j.1+ ' D.3.# 7#P1#@*3.Y

@', 5;#: .1D#T)!./(#"15"/,/"015#&/#)(": F,)5(+90)#5, - '#5/, +(1/5#9)O: #
/' (#5/./(5;#B' -" #'5#.#: .hO)#5O,)-(#O9#/' ("#"15"/,/"01.3#"1-0: (#@' #5
.35O#(1-0,).&(5#OT(1"1&#O9#: O)(#T)!./(#-O33(&(5;# .5#/' (#&)OB/' # "1#
&O!)1: (1/C."+(+T)!./(#-O33(&(5# .5#10#B01&#)F((1#(1-0,).&(+#G/./(#
&O!)1: (1/5#9"1+##/' "5#T03"/-. 33D#./).-/'! (;# .5#/'#.330B(+^(^T.15"01#O9#
' '&')#(+, -./'01#.1+##/')O, &' #5, -' #(^T.15"01#5((: 5#/O# '!(#:# OF"3"d(+
3.)&(#!O/"1&#F30-5#.: O1/, +(1/5#.1+T)!./(#(+, -./'01#(1/)(T)(1(,)57

E1+ .\5#)(5O)!./"01#T03"- "(5#.)(#.#: .//O)#O9#(^/(15"! (#)(5(.)-' #.1+##
+5-, 55"017#GO: (#5/, +"(5#'.!(#90, 1+##/' ./#/' (D#'.!(#F((1#!)O)D#(99(-C
/'! (#"1#": T)O!"1&#.- (55#90)#+5. +! .1/.&(+#&)O, T5#Lg ("55YOT9#>JJRN#;
.1+##.)&, (#"1#9.!O,)#O9#-.5/(CF.5(#)(5O)!./"015#.1+##/' (")#-01/"1, ./"01#
LU(5' T.1+(#>JJ?N#P' O5' #>JJ?N#_/')#5/, +"(5#/' OB(!)#5, &&(5#/' ./#
/' (5(#T03"- "(5#'.!(#F((1#"1.+ (i, ./(#"1#": T)O!"1&#-0: T3(/"01#)./(5#
('/')#./# '&' #5-' 003#O)#, 1"!)5"/D#3(! (35#O)#FO/' 7#@')(#.)# .35O#/' (#
/DT"- .3#.)&, : (1/5#.&."15#/' (#T03"- "(5# .5#), 11"1&#-0, 1/()#/O#: ()"/OC
-)./'-#.#+: "55"015;#/')(#"5#10#)./"01.3(#90)#/' (5(#T03"- "(5#/O#-01/"1, (#
L8(' /.#>JJRN#.1+##/' ./#)(5O)!./"01#9.!O,)5# '&')#(+, -./'01.3#.- (55#90)#
F.-YB.)+-.5/(5#(3'/(5#(^-3, +"1&#/' (#), 3D#+5. +! .1/.&(+#LGB.: "1./' .1#
>JJ?N#@' (#5O"- .3#-3.55#+99O)(1-(#"1#"1+!"1"+, .3#-').-/O"5"/-5#O9#)(5O)! .C
/'01#(3"&"F3(#.1+#101C(3"&"F3(#TOT, 3./"015#B' O#&).+./(#O): #5(-01+.)D#
5-' 003#.TT(.)#/O#F(#1(&3"&"F3(#L(7&7;#Zd.: #.1+##` 30: #>JJHN7#2"1.33D;#
"/#5#.)&, (+##/' ./#.+)(55"1&#/' (#"55, (#O9#5O"- .3#(i, "/D#"1#/)/").D#(+, -.C
/'01#/')O, &' #.99): ./"! (#.-/"01#"5#-01+/"01(+O1#/' (#3!(3#O9#(i, "/D#
.-' "(! (+#"1#30B) #3!(35#O9#5-' 003"1&#.#.1+##/' ./#)(5O)!./"01#)(5, 3/5#"1#
+3, /"01;#"9#10/#5O)O, 5#(O)5"01;#O9#/' (#i, .3"/D#.1+#5/.1+.)+5#"1# '&')#
(+, -./'01#.1+##/'5#O!)O.33#-0: T(/"/'! (#5/)(1&/' 7

@' (#)(5O)!./"01#T03"-D#'.5#/') (90)(#F((1# '&' 3D#-01/)O!)5".37#@' (#
G, T): (#40,)/#O9#E1+.#)(-(1/3D#. +!"5(+##/' (#, 1"01#&O!)1: (1#10/#
/O#)3.^#.#: "55"01#-"/O) #9O)#+5. +! .1/.&(+#&)O, T5;# .5#/'#BO, 3+##+3, /(#
:)/#LUC >Z#>J6=N7#` ,/#FO/' #, 1"01#&O!)1: (1/#.1+##/' (#5/./ (5#9"1+##/' ./#
"/#BO, 3+#F(#T03"/-. 33D#-O5/3D#O#&O#.&."15#/' (#)(5O)!./"01#T03"- "(5#GO: (#
5/./ (5#!" (#B'/' #/' (#, 1"01#&O!)1: (1/#.1+##/')#5/./ (5#FD#T)O!"1+1&#
)5O)!./"015#F(DO1+##/' (#3!(35#T)(5-)"F(+##FD#/' (#, 1"01#&O!)1: (1/7#2O)#

)5()!./"015#90): "10"/D#(3"&"0, 5#&)0, T5:#T.)/"-, 3.)3D#8, 53": 5:#FO/' #1#
' "&' ()#(+, -./"01#.1+#(: T3OD: (1/7#E1#50: (#-.5(5;#-0,)/5#' .!(#/,)1(+
+0B1#5/./(#3(&"53./"01#"1#/' "5#)(&.)+7

E/#"5#&(1().33D#"1/()T)/(+##/' ./#, 1+()#/' (#T)0!"5"01#09#-00)+1./"01#.1+#
: ."1/(1.1-(#09#i, .3"/D#.1+#5/.1+.)+5#"1#" "&' ()#(+, -./"01;#.3: 05/#.33#
.5T(-/5#09#" "&' ()#(+, -./"01#.)(:#"1#T).-/'-(;#, 1+()#/' (#-01/)03#09#/' (#
, 1"01#&0!()1: (1/7#@' (#&, "+(3"1(5#09#/' (#, 1"01#&0!()1: (1/#0)#[P4;#

>QJ# \$#j.1+' D.3.#` 7#P7#@*3.Y

@(5/#-.1#.TT3D#90)#.#/(.-' "1&#T05/#"1#.1D#-(1/).3#0)#5.//(# , 1"! ()5"/D#O)#
-033(&(#"1#E1+".;#B' "3(#/' 05(#B' 0#5, --((+"1#. #5./(#(3"&"F"3"/D#/(5/#.)(#
(3"&"F3(#90)#(: T3OD: (1/#"1#/' (#&"! (1#5./.(#O13D7

G": "3.)3D;#1./"01.3C3(! (3# (1/).1-(#/(5/5#.)#)(i , ") (+#90)#.+: "55"01#
"1#" '&' ()#T)09(55"01.3#(+, -./"01#"15"/, /"015;#90)#(^.: T3(;#/' (#jO"1/#

L6HH0#-0 : "/((:#)#. #5: "3.)#(-0 : (1+."/01#FD#/' (#ZE4@*#L6HHR#
-0 : : "/((Z;#) (#5/) -/3D#(190)-(+1("/' ()#"1#/' (#-(1/). 3#, 1"! ()5"/" (5#10)#
"1#5/./ (#, 1"! ()5"/" (5# : . 1D#, 1"! ()5"/" (5#+"+# //(: T/#/0#) (-.' #. 1+# (! (1#
/0#^(-(+ #' (#&0. 3#T)!) "+(+FD#/' (#-0 : : "/((5#09#/' (#-(1/). 3#FO+)" 57

@' , 5;#"1#50: (#-. 5(5;#5/./ (5#300Y#90)B.)+ #/0#/' (#, 1"01#&0! ()1: (1#0)#
-(1/). 3#. & (1-" (5#90)#n&, "+ (3"1 (5#0)# (! (1#n0)+ ()5#) ./' ()#/' . 1#+0"1&#/' (#
5: (#01#/' (")#OB17#@' "5# : . D#F (#F(-. , 5(#/' .#50: (#09#/' (#5/./ (5# : . D#F (#
/00#B(. Y#0# ' .! (#/' (")#OB1#301&C/() : #!" (B#"1#+ (! (30T"1&# " &')#(+, -. C
/'01;# . 1+W0)#F(-. , 5(# : . 1D#09#/' (#-(1/). 3#1"/" ./' (5#.) (#9030B(+FD#50: (#
9, 1+"1, TT0)/;# . 1+#' (1-(#/' (#5/./ (5#-015"+) #/' (: #B0)/' #B."1Z)7

@' , 5;# . 3/' 0, &' # " &' ()# (+, -. /"01#"5#3"5/(+#"1#/' (#/')((#3"5/5#"1#/' (#
4015"/" , /"01;# " &' ()# (+, -. /"01#" . 5#-015"5/(1/3D#F((1#/) . /(+#T03"/"-. 33D#
. 5#/' (#5' .) (+#) (5T015"5"3"/D#09#FO/' #' (#, 1"01#&0! ()1: (1/#. 1+##/' (#5/./ (5;#
. 1+#' . 5#F((1#5, Fh(-/#/0#/' (#T, 5' (5# . 1+#T, 335#09#T03"/"-. 3#TOB) (#5/), &&3(5#
F/B((1#/' (#, 1"01#&0! ()1: (1/#. 1+##/' (#5/./ (5;#B/' #' (#, 1"01#&0! ()1C
: (1/#T3.D"1&#.# : .h0)#03(#"1#T03"-DC: . Y"1&#"1#T) (5-) "F"1&#), 3(5# . 1+##
)(&, 3./"015;#(! (1#-,))"- . 3.#. 1+#0/' ()# . 5T(-/5;# . 1+##/' (#5/./ (#&0! ()1: (1/5#
T3.D"1&# . 1#": TO)/. 1#)03(#"1#": T3(: (1/"1&#/' (: 7

E/#"5#/(33"1&#;# OB(!)#/' ./#0! ()#/' (#D(.)5;#/' (#, 1"01#&0! ()1: (1/#
5((: 5#/0# ' .! (#3.) & (3D#305/#-01/)03#0! ()#5/./ (#T03"- (5;#B/' #' (#5/./ (5#
5//"1&#T, T# : 0) (# . 1+## : 0) (#5/./ (#, 1"! ()5"/" (5# . 1+##-033 (& (5#B/' ' 0, /#1 (- (5C
5.) "3D#5/) "-/3D# . + ' ()"1&#/0#10) : 5#T) (5-) "F(+FD# [P4 ;#Z4E@* ;#< 4@*#
0)#84E#. 1+## . 330B"1&#&)OB/' #09#T)! . /(#-033 (& (5;#T))"- . 3.) 3D#n, 1. "+(+##
-033 (& (57#Z/#/' (#5: (#/# : (:# 5#/' (#G, T) : (#40,)/#09#E1+ . #. 110, 1-(+##
"1#"5#h, +& (: (1/#"1#>JJR#01#T)! . / (#, 1"! ()5"/" (5#"1#4' ' . /"5&.)' ;# . #
& . : , /#09# " &' ()# (+, -. /"01#) (&, 3./"015;#"1-3, +1&#/(. - "1&#;#i , . 3"/D#09#
(+, -. /"01;#-,))"- , 3, : ;#5/ . 1+.) +##09# (^ : "1./"01# . 1+## (! . 3, . /"01# . 1+##
. 350#) (5(.)-' #. - /"!" /D#nB"33#10/#-0 : (#B/' "1#/' (#T,)!" (B#09#/' (#5/./ (#
3("&53./) (#01# . --0, 1/#09# . #5T(-"9"-#(1)D#01#-00)+1./"01# . 1+## (/()C
: "1./"01#09#5/ . 1+.) +5#"1#"15"/, /"015#90)# " &' ()# (+, -. /"01#0#) (5(.)-' #
. 1+##5-" (1/"9"-# . 1+##/(-' 1"- . 3#(+, -. /"01#F("1&#"1#/' (# [1"01#b"5/7

@' (# : ()&(1-(#09#T)! . / (#, 1"! ()5"/" (5#"1#E1+ . #T) (5(1/5# . 1#"1/() (5/"1&#
-. 5(#"1# , 1"01K5/./ (#TOB) (#) (3./"015;#"1# OB#/' (#-3, 5(#09#-01-,)) (1-D#

>Q># \$j. 1+ . D.3.# 7#P7#@*3.Y

' .5#F((1# , 5(+#L0)# : "5, 5(+N# . 1+#"1# ' 0B#/' (#)03(#09#/' (# [P4;#/' (# : .1#- (1/).3#FO+D;# ' .5#F((1# : "1" : "d(+7# [1/"3# .#9(B#D(.)5# .&O;#/' ()(# B()#013D#- (1/).3# . 1+#5/ . /(#L&O! ()1 : (1/N# , 1"!) ()5"/" (5#1#/' (#-0, 1/D);# "1# . ++"/"01#/#0# .#9(B#+((: (+# , 1"!) ()5"/" (5#20)# . #301&#T()0+;#T)! . /(# , 1"!) ()5"/" (5#B() (#10/# .330B(+ # . /# .33;# . 5#T()#/' (# , 1"01# . 1+#5/ . /(#3. B5#) (3/."1&#/#0# " &')#(+ , - . /"01#"1#E1+" . 7

Z9/()#/' (#"1/)0+ , -/"01#09#1 (03"F() .3#(-010 : "-#T03"- (5#1#/' (#(.)3D# 6HHJ5;#T) (55,) (5#/#0#OT(1#/' (# " &')#(+ , - . /"01#5(-/0)#/#OT)! . /(#T3. D)05# F(-. : (#5/)01&#A, F3"-# , 1"!) ()5"/" (5# . +#3" : "/(+# . T. - /D#/#O# : ((/#1-) . 5C "1&#+ : . 1+7#@' (# , 1"01#&O! ()1 : (1/#9(3/#/' (#1((+/#/#O# : .Y(#3(&"53. /"01# 90)#/' (# (5/. F3"5' : (1/#09#T)! . /(# , 1"!) ()5"/" (5#E/#T) (T.) (+# . #A)! . /(# [1"!) ()5"/" (5# "33#LP0! ()1 : (1/#09#E1+ . #6HH=#B"/' #. #! ("B/#0#T)0! "+"1&# 90)#/' (# (5/. F3"5' : (1/#09#5(39C9"1. 1-1&# , 1"!) ()5"/" (5#@' (# "33#B. 5#10/# T. 55(+#"1#/' (#A.)3" : (1/#90)#! .)"O, 5#T03"/" - . 3#(-010 : D#) (. 501576R# ` , /# B' (1#/' (# , 1"01#&O! ()1 : (1/#-0, 3+#10/#(1. -/#3(&"53. /"01# .330B"1&#/' (# (5/. F3"5' : (1/#09#T)! . /(# , 1"!) ()5"/" (5;#50 : (#09#/' (#5/ . /(#&O! ()1 : (1/5;#) (- . 33"1&#/' (##-01- ,))(1/#1. / ,)(#09#(+ , - . /"01#"1#/' (#4015"/ , /"01#/' . /# . 55"&15# " &')#(+ , - . /"01# . #0"1/#) (5T015"F3"/D#09#5/ . /(#5. 1+##/' (#1. /"01. 3# &O! ()1 : (1/;#T)0 : , 3& . /(+#O)+"1. 1-(5#01#/' (")#0B1# . 1+#3/ . /()#(1. -/(+ # 5/ . /(#3(&"53. /"01#B"/' O , /#B. /"1Z)#/' (# , 1"01#&O! ()1 : (1/#5#Z- /# [P4# B. 5#3(9/#013D#/#0#90) : , 3. /(#50 : (#) (& , 3. /"015#01#/' (#9, 1-/"01"1	# /' (#T)! . /(# , 1"!) ()5"/" (5#5, -' # . 5#/' . ##/' (D#-0, 3+#10/#' . ! (# . 1D# . 99"3' . /(+ # -033 (&"5. 1+##/' . /#/' (")## ,)"5+ - /"01#"5#3" : "/(+#/#O#/' (#5/ . / (7#=#Z- -0)+"1&# /O#/' (# [P4;#/' ()(#B() (#>0#H#T)! . /(# , 1"!) ()5"/" (5#"1#>J6?# (5/. F3"5' (+ # FD#/' (#Z- /5#09#/' (#3(&"53. / ,) (5#09#+ "99() (1/#5/ . / (5#Z33#/' (5# , 1"!) ()5"/" (5# .) (#"1#/' (#5/ . / (#5(-/0)#013D#/' () (#"5#10#5"1&3(#- (1/). 3#T)! . /(# , 1"!) ()C 5"/D7#E1# . ++"/"01;#/' () (#.) (#HJ#T)! . /(#+((: (+# , 1"!) ()5"/" (5q 09#B" " -' # 66#) (- ("! (#+) (-/#9"1. 1- . 3#5, TT0)/#9)0 : #/' (#5/ . / (# . 1+#IH# , 1. "+(+#"1# >J6RK>J6=7#E1#9. -;/#/' () (#.) (# . #9(B#/#DT(5#09#T)! . /(# , 1"!) ()5"/" (5q . 33# "1#/' (#5/ . / (#5(-/0)q 5, -' # . 5#T)"! . /(# , 1"!) ()5"/" (5#T)"! . /(#OT(1# , 1"!) ()5"C /" (5;# . 1+#T)"! . /(#+((: (+# , 1"!) ()5"/" (5#L. "+(+;#T)"! . /(#+((: (+# , 1. "+(+

^{6R#}@' ()(#B. 5# . 1# , 15, --(559, 3# . //(: T/#/#O#)(+) . 9#/' (#F"33# . 1+#T) (5(1/#"1#/' (# A.)3" : (1/#"1#>JJ=7

^{6#}[P4# *5/. F3"5' : (1/#09# . 1+#8. "1/(1. 1-(#09#G/. 1.+)+5#1#A)"! . /(# [1"!) ()5"/" (5#N S(& , 3. /"01;#>JJ0#Z! . 3. F3(#/# //T#WBBB7, &-7. -7"1W03+T+9W) (& , 3. /"015W(5/. F3"5' C : (1/v: . "1/(1. 1-(7T+9

E1+."#\$#>00

, 1"! ()5"/" (5;# (/ -7N#.5#5' 0B1#"1#@.F3(#17>7#@' (#10: (1-3./,)(#09#50: (#
09#/' (5<#, 1"! ()5"/" (5#+0(5#10/#5((: #/0#F (#-3(.)7^{6?}

Z/#/' (#-033(&(#3(! (3;#/' () (#.) (#(^. -/3D#/B0#/DT(5#09#T)"! ./(#-033(&(5;#

>QR# \$#j.1+' D.3.#`7#P1#@'3.Y

-033(&(5#F, /# 350;#/')O, &' #' (#&).1/5C"1C."+#: (-' .1"5: ;#/' (D# ' ! (#F((1#
.F3(#/O#(^)/#-01/)O3#O! ()#: O5/#.5T(-/5#O9#T)"! ./(#-033(&(5q &O! ()1.1-(:#
.TTO"1/: (1/#O9#/(. -' "1/.99;#/, "/O1#9((5;#/(. -' ()#5.3.)"(5#. 1+#-O,)5(5#
O9#5/, +D#. 1+#/' (#-,))"-, 3, : 7⁶⁰#G"1-(#T)"! ./(#-033(&(5#: , 5/#F(#.99"3" ./(+
B"/' #.#T, F3"-#, 1"! ()5"/D;#/' (D#.)(#5, Fh(-/#/O#T, F3"-#, 1"! ()5"/D#-01/)O35#
O! ()#-,))"-, 3, : #. 1+#/' (#(^.: "1./"O15#/' ./#5/, +(1/5#: , 5/#T.55#/O#&(/#
-)(+/"#90)#/' (#-O,)5(57#@' (D#.)(#5, Fh(-/#/O# 55(55: (1/#. 1+#. --)(+/"#C
/"O1#FD#T, F3"-#. &(1-"(5;#/' (# <ZZ4#0)# <`Z7#@' (D#.)(#.350#5, Fh(-/#
/O#O/')#5/./(#-01/)O35;#"1-3, +"1&#"1# .+: "55"O15#. 1+#/, "/O1#TO3"- (57#
` , /#/' (#5/./(#T, F3"-#, 1"! ()5"/(5;#B"/' #B' " -' #' (5(#-033(&(5#.)(#.99"3"C
./(+;#.)(#"1-)(.5"1&3D#"193, (1-(+#. 1+#-01/)O33(+FD#/' (#' (. +5#O9#/' (#
T)"! ./(#-033(&(5;# 5#/' (5(#-033(&(5;#.301&#B"/' #O/')#&O! ()1: (1/#. 1+#
&O! ()1: (1/C."+(+T)"! ./(#-033(&(5;#F(-O: (#: (: F)5#O9#/' (#. -.+(: "-#
. 1+#O/')#&O! ()1"1&#FO+"(5#O9#/' (#)5T(-/'! (#, 1"! ()5"/(57#@' (D#.)(#.350#
.-/"1&#.5#. #5/O1&#T)(55,)(#&)O, T#BO)Y"1&#. &."15/#: .1D#O/')# 5T(-/5#
O9#, 1"! ()5"/D#.+: "1"5)/."O1#/' ./#.99(-/##' (")#! (5/(+##"1/() (5/57#Z33#/' (5(#

E1+."#\$>0=

6HHH;#>J6J.N7#G0: (#(! (1#.)&, (#/' ./#' ()(#"5#10#nT)"! ./(\#(+, -."01.3#
"15"/, /"01#"1#E1+." ;#"1#" /5#T)OT(#"1/()T)(/."017

@' ()(#.)(:#' 0B(!());#: .1D#B' 0#9"1+#5(!).3#T05"/"! (#9.-/O)5#.550-"C
./(+#B'/' #T)"!./(#"15"/, /"0157

@' (5(#T)"!./(#"15"/, /"015#.)(#' (3T"1&#O#:((/#' (#&)0B"1&#+(: .1+##/' ./#
/' (#T, F3"-#5(-/O)#-.110/7#A)"!./(#"15"/, /"015#.)(#3(55#5, Fh(-#/O#T03"/"- .3#
"15/.F"3"/" (5#.1+##+.DC/OC+.D#T03"/"- .3#T)(55,)(5#/' ./#09/(1#F(+(!"3#T, F3"-#
"15"/, /"015#"1#+(! (30T"1&#-O, 1/)"(57#@' (D#.)(#.350#: O)(#1": F3(#.1+##.F3(#
/O#)(5T01+##/O#-' .1&(5#"1#+(: .1+5#9)O: #(: T3OD()5#.1+#3.FO)#: .)Y(/57#
L] .T,)#>J6J;#?N

@' "5#"5# 10/# -O: T3(/ (3D#/), (7# Z5#: 05/#T)"! ./(# -O33(&(5#.) (#5(/#, T#O)#

>Q?# \$j. 1+ D.3.# 7#P1#@3.Y

' (,+ #FD#.#h, +(&#O9#/' (#' "&' #-O,)/#5(/5#/' (5(#9((5:#F.5(+ #O1#/' (#. -/, .3# -O5/5#O9#T(+, -./'O1#1#/' O5(#, 1."+(+ #T)O9(55"O1.3#-O33(&(5#.#5#)(TO)/(+ #FD# /' (#)5T(-/'! (#-O33(&(57#@' ,5;#T)! ./(#, 1."+(+ #O33(&(5#.#))#O: (B' .:/#F, /# 10/#/O/.33D;#9)((#1#9#^"1	(#)./(5V# OB(!):#/' (D#.)(#: O5/3D#)(TO)/(+ #/O# F(#O!)#-' .) &"1&#/' (#5/, +(1/5#O, /5+(#/' (#9O): .3#9((#5D5/(: 7

Z5#.#&OO+#1, : F()#O9#T)! ./(#, 1"!)5"/" (5#.#1+#-O33(&(5#.#))#1-)(.5C "1&3D#9O, 1+#/O#!"O3./(#5/./(#), 3(5#.#1+#.#+OT/#, 19.#)T). -/'-(5:#/' (#, 1"O1# &O!)1: (1/#9(3##/' (#1((+ #/O#1/O)! (1(:#./' O, &' #/' (5(#, 1"!)5"/" (5#.#))# OT(./"1&# , 1+) #5/./(#h,)"5+"-/'O17#@' (#, 1"O1#&O!)1: (1/#-.: (#B"/' #.#+).9/#F"33;#1.: (3D;#nA)O' "F"/"O1#O9# [19."#A). -/'-(5#1#@(-' 1"- .3#.#1+# 8(+ "-.3#*+, -./'O1.3#E15"/, /"O15#.#1+ [1"!)5"/" (5#- "33;#>J6J;#B' "-' # B.5#-)"#-"d(+ #FD#5/./ (L5#.#5.#1#./(: T/#n/O#9), 5)/.(/#) ./')#/' .1#., &: (1/# (99O)/5#F("1&#:#. +(#FD#/' (#5/./(#&O!)1: (1/5#.#1+##/' (")#-O1/)O3#O9#/' (5(# "15"/, /"O15#L .FD#>J6JN7#@' "5#- "33;#.#3O1&#B"/' #.#9(B#O/')5#O1# " &')# (+, -./'O1;#5#5/"33#T(1+"1&#F(9O)(#/' (#A.)3": (1/7

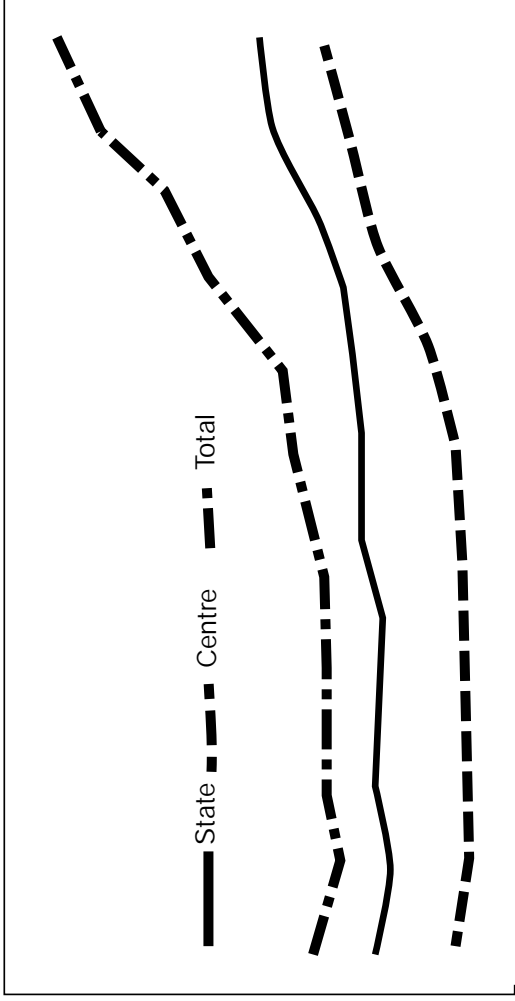
@' ,5;# '&')#(+, -./'O1#'.5#F((1#5, Fh(-/#/O#/' (#T, 5' (5#.#1+#T, 335#O9# TO3"/"- .3#TOB()#5/), &&3(5#F(/B((1#/' (#, 1"O1#&O!)1: (1/#.#1+##/' (#5/./ (5:# /' (#, 1"O1#&O!)1: (1/#+O: "1./"1&#"1#5O: (#.) (5#.#1+#5/./ (5#"1#O/')5# .#1.#)O, 5#TO"1/5#O9#/' : (7#@' (#3.-Y#O9# , 1+)5/.1+"1&#.#1+#-OOT(./"O1# F(/B((1#/' (#/BO#"5#"1+(+ #.#1": TO)/.1/#"55, (#O9#-O1-)O1#1#.#9(+) .3# 5D5/(: 7#@' (#-' .1&#TO3"/"- .3#1./,)(#O9#/' (#&O!)1: (1/5#./#/' (#-(1/).3# .1+#5/./ (#3(! (35#"5#.#++"1&#/O#/' "57#@' (#-.5, .3/D#"5#/' (#' "&')#(+, -./'O1# 5D5/(: 7# , /#O)#.#9(B#3": "/(+##": (15"O15#O9# "&')#(+, -./'O1;#/' (#, 1"O1# &O!)1: (1/;#.#54.)1OD#(/#.#37#L>J6ON#OF5() (+;#/.159())(+ #/5#) (5TO15"C F"3"/D#O9#+(! (3OT"1&# " &')#(+, -./'O1#/O#/' (#5/./ (5:#.#1+##/' (#5/./ (5#.# ! (# 9,)/')#).159())(+ #/ #/O#T)"! ./(#: .)Y(/#9O)-57

2.-/O)5#/' .#:#. Y(#"/#TO55"F3(#9O)#, 1."+(+ #T)"! ./(#-O33(&(5#/O#F(#5, -' # .#:#.hO)#! ('-3(#9O)#&)OB/' #1#(1)O3: (1/5#"1#E1+"#.#))#/' (#3": "/(+ #5, TT3D# O9# , 1+) &)#.#, ./(#T3.- (5#"1#T, F3#-#.#1+#T)"! ./(#."+(+ #O33(&(5:#/' (#5/"33#).T"+3D#(^T.1+"1). -/'O1#O9#-O33(&(C.&(#DO, /' #1#1# '&')#(+, -./'O1;# /' (#' "&' #) ./(#O9#(.)1"1&5#T.DO99#9O)#.#-O33(&(#(+, -./'O1;# (5T(-.33D#9O)# &)#.#, ./ (5#"1#T)O9(55"O1.3#.#1+##/' (-' 1"- .3#9" (3+5#L4.)1OD#(/#.#37#>J6ON#.#1+# /' (#) (3./" ! (3D#" "&' #5O-.3#-3.55#O9#5/, +(1/5#-.,))(1/3D#"1#/' (#: .)Y(/#9O)# -O33(&(#T3.- (57#@' (#T.)(1/5#O9#/' (5(#5/, +(1/5#.)#B"33"1&#.#1+#.F3(#/O#T.D# i ,"/(#' "&' #/, /"O1#.#1+#! (1#n-.T"/./'O1#q', &(#3, : T#5, : #, 1., /' O)"d(+ # 9((5q9O)#/' (")#-' "3+) (1#5#" "&')#(+, -./'O17

Z5# .3)(.+D#: (1/"01(+;#+(! (30T: (1/#.1+#: ."1/(1.1-(#&).1/5#.)(#
)(-(!(+#FD#-(1/).3#, 1"! ()5"/"(5#.1+#O/' ()#"15"/"/, /"015#09#" "&' ()#(+, -.C
/"01#/')0, &' #' (# [P4;#.1+W0)#+)"(-/3D;#"1#50: (#5T(-"9"-#.5(5;#9)0: #' (#
8%SU#.1+W0)#O/' ()#-01-()1(+#: "1"5/)"(5#"1#/' (#, 1"01#&O! ()1: (1/N7#
@' (#5/./(#, 1"! ()5"/"(5#.1+#LO/' ()#5/./(#"15"/"/, /"015#"1-3, +"18#-033(&(5N#
)(-(!(#+(! (30T: (1/#&).1/5#9)0: #' (#, 1"01#&O! ()1: (1/#/')0, &' #' (#
[P4;#.1+#: ."1/(1.1-(#&).1/5#+)"(-/3D#9)0: #' (#5/./(#&O! ()1: (1/57#
Z5#5/./(#, 1"! ()5"/"(5#+(T(1+#, T01#FO/' #' (#5/./(#&O! ()1: (1/#.1+##/' (#
, 1"01#&O! ()1: (1/# [P4# .1+#O/' ()#: "1"5/)"(5N#90)#/' (")9, 1+"1&#/' (D#
) (#5, Fh(-/#/O#)(&, 3./"01#FD#FO/' #- (1/).3#.1+#5/./(#.&(1-(57#A)"! ./(#
."+(+#"15"/"/, /"015#.)(#.350#5, Fh(-/#/O#/' (#5.: (#T./()1#09#9, 1+"1&7#G(39C



E1+."#\$



1. 7.5 Real Rate of Growth in Expenditure of the Union and State Governments on Higher Education, from 2000–2001 to 2011–2012 (%)

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| H | E | BC | C | S |
|---|---|----|---|---|



"1#T, F3"-#5T(1+"1#n, 1"!)5"/D#. 1+# '&' ()#(+, -./"01#1-).(5(+##)O: #>=#T()#-(1/#/O#OR#T()#-(1/#. 1+#01#/'(-' 1"- .3#(+, -./"01#;#9)O: #RR#T()#-(1/#/O#=#0#T()#-(1/#+,)"1&#/' "5#5.: (#T()#0+;#>JJJK>JJ6#>O#>J66K>J6># @' (#"1-).(5"1	"5-.3#-015/)."1/5#/' ./#/' (#5./.(5#9.-(+#B()#T)OF.F3D#/' (# : ."1#9.-/O)#"1#(^T3."1"1&#B' D#/' (#5./.(5#)O3(#+(-3"1(+#. 1+#B' D#/' (# , 1"01#&O! ()1: (1/#"1-).(5(+##/5#5' .)(#1#9, 1+"1&# '&' ()#i , .3"/D#.350#T3.D(+ #)03(7#@' (#).T+#(^T.15"01#09#30BCi , .3"/D#T)"!./(#, 1."+(+#+, -./"01# .99"3"./(+#B'/' #5./.(#, 1"!)5"/"5;#5T(-.33D#"1#(1&"1()#1&#. 1+#F, 5"1(55# : .1.&:(1/#/00Y#-.)(#09#/' (#(^T30+"1&#+(.1+#90)#&).(./)#. --(55#/O# ' '&' ()#(+, -./"01#1#/' (5(# " '&' #T.DO99#9" (3+5;#F, /#/#.350#T, /#T)(55,)(#01# /' (#, 1"01#&O! ()1: (1/#/O#T)O!"+(#:#)O(#. --(55#/O# ' '&' #i , .3"/D#"15"/, C /"015#09#1./"01.3#": T0)/.1-(:#5, -' #.5#/' (#EE@5#. 1+##<./"01.3#E15"/, /.(5#09# @(-' 1030&D#L<E@5N;#.5#B(33#.5#EE857#@' (#, 1"01#&O! ()1: (1/\5#(^T(1+"C /,)(#"1-).(5(+#. /#3: 05/#+0, F3(#/' (#)/(#09#&)OB/' #09#5/./(#&O! ()1: (1/5# (^T(1+"/,)(#01# ' '&' ()#(+, -./"01#F/B((1#>JJJK>JJ6#. 1+#>J66K>J6># l@.F3(#17=N;#)(5, 3/1&#"1#.5"1&"9"-1./#5' "9/#"1#/' (#T)OT0)"01#09#/' (#, 1"01# 5' .)(#"1#9"1.1-1&# '&' ()#(+, -./"01#FD#>J66K>J6>#L2"&,) (#17>N7

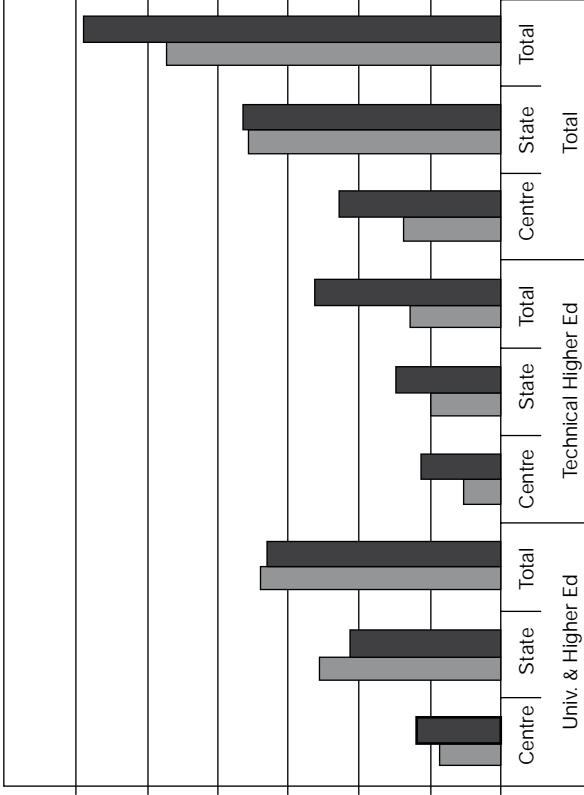
' '&' ()#(+, -./"01# 5(+##1#/' "5#-' .T/();#T)O!"+(5#+./.#, 1+()#B0# (.+"1&5a#n, 1"!)5"/D# .1+# '&' ()#(+, -./"01#%. 1+#n/(-' 1"- .3#(+, -./"01#7#Z#5, F5/.1"/.3#T)OT0)/"01#F, /#10/# .3;#09#/' (#0): ()#"1-3, +5#&(10).3# ' '&' ()#(+, -./"01#;. 1+##/' ()(#5#.#5: .33#-O: T01(1/# 09#5-# 003#(+, -./"01#1#/' (#3./()#-./(&O)D7#`O/' #.)(#&(10).33D#-015+() (+#"1#/' (# -01/(/#09# ' '&' ()#(+, -./"01#

>H># \$#j.1+' D.3.#`7#P7#@*3.Y

Z5#. #T)0T0)"/01#09#PUA;#/' (#(^T(1+"/,)5#09#/' (#, 1"01#&0! ()1: (1/#
01#'"&' ()#(+, -./"01#"1-).(5(+9)0: #013D#J70#T()#-(1/"1#>JJ=K>JJ?#
/0#. #50: (B' ./#' "&' ()#J7=#T()#-(1/"1#>J66K>J6>7#@' (#(^T(1+"/,)#09#
5/./(#&0! ()1: (1/5#B()#013D#J71#T()#-(1/#09#PUA#"1#>JJ=K>JJ?;#. 1+#
/' ()#B.5#10#"1-).(5(#"1#/' (#)3./"!(#5T(1+"1#" "&' ()#(+, -./"01#FD#
/' (#5/./5#F(/B((1#>JJ=K>JJ?#. 1+#>J66K>J6>#L2"&,)#170N7#@' (#4Z` *#
40: : "//(#L>JJ=N#)(-0: : (1+(+#. 1#. 330-./"01#09#67=#T()#-(1/#09#PUA#
/0#" "&' ()#(+, -./"01#FD#/' (#-(1/)(#. 1+#5/./(#&0! ()1: (1/5#-0: F"1(+;#50#
/' (#/0/.3#5T(1/#L67>MN#"1#>J66K>J6>#9(33#9.)#5' 0)/#09#/' ./#&0.37

2,)/' ()#/' (#5' .)(#09#" "&' ()#(+, -./"01#"5#" "&' ()#"1#/' (#, 1"01#&0! C
()1: (1/#F, +&(/#90)#(+, -./"01#/' .1#"1#/' (#/0/.3#F, +&(/#09#/' (#5/./(#
&0! ()1: (1/5#01#" "&' ()#(+, -./"017#E1#>J6JK>J66;#/' (#, 1"01#&0! ()1C

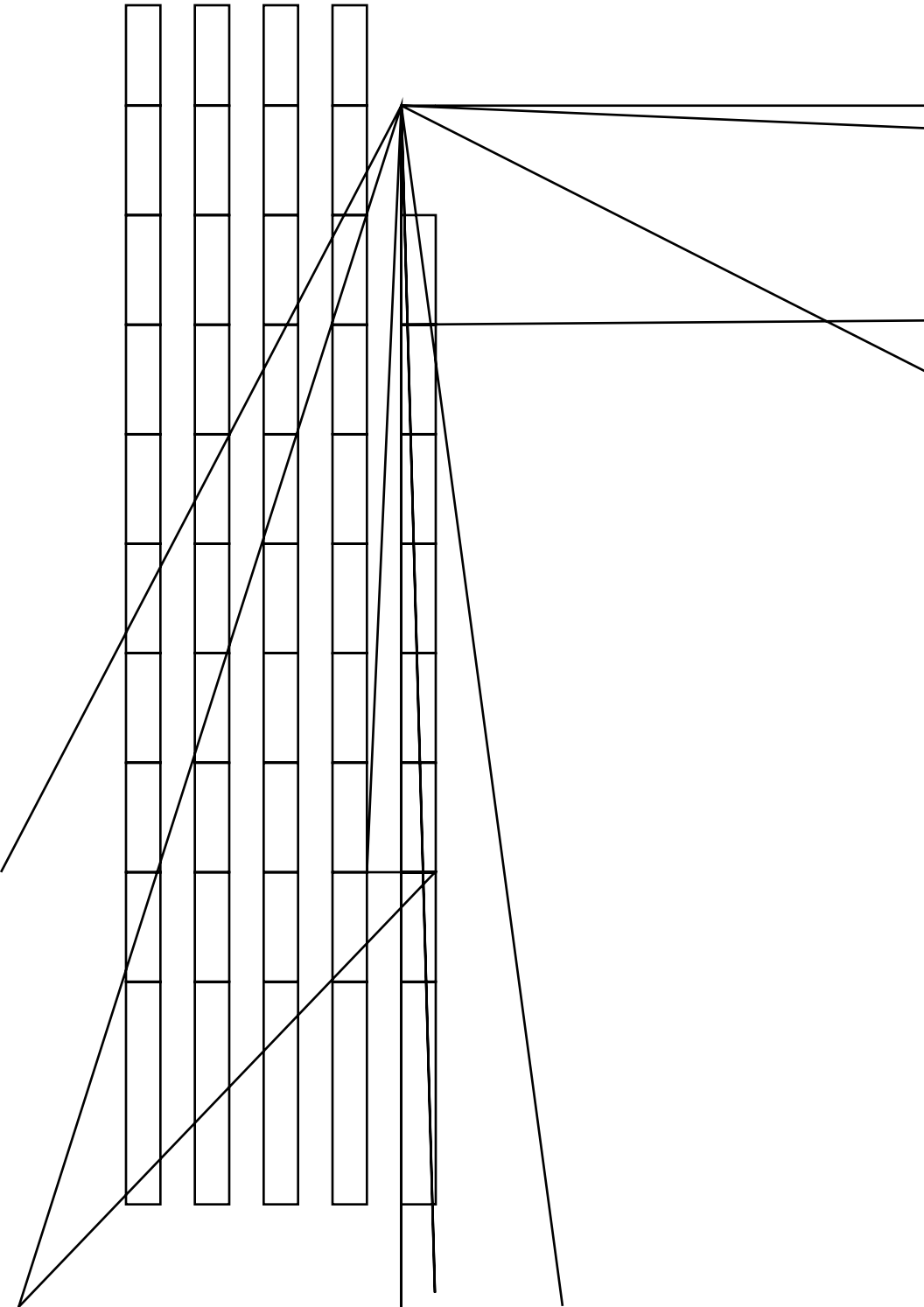
1.



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>HR# \$#j.1+' D.3.#`7#P7#@`3.Y

5/./(#&O! ()1: (1/5;#5-' 003# (+, -./"01#5(: 5#/O#F(#.#T)"O)/D;#.3' O, &' #
FO/' #, 1"01#.1+#5/./(#&O! ()1: (1/5#5T(1+#3(55#01#' "&' ()#(+, -./"01#/' .1#



>HQ# \$#j.1+' D.3.#` 7#P1#@*3.Y

50#5: .33#/' ./#/' (D#.)(#10/#T05"/"01(+#/O#)(+,-(#)&"01.3#O)#"1/()5/./(#
"1(i , 3"/"(5#*1#/' (#+(! (30T: (1/#O9# " &')#(+,-./"01#O#(! (1#5T(-"9C
-.33D#*1#/' (#(^T(1+/,)(#O#(^T(1+/,)(#T)O#-T"/.#01#' "&')#(+,-.C
/"017#<("/')#*1(i , .3"/"(5#10)#-01-()15#09#i , .3"/D#-0, 3+#F(#.+ (i , ./ (3D#
.++) (55(+#FD#/' (#-(1/).3# .330-./"015#O#+ "99() (1/#5/./ (5# .1+ #/' (")#, 1"!) C
5"/"(5# .1+ #' "&')#(+,-./"01#15"/, /"015#L@*3.Y#6HQH;#>J6?N7#%OB(!)#;
B(#9"1+ #/' ./# "1/()5/./ (#+ "5T.)"/" (5#*1#&)055# (1)03: (1/#) ./"0#*1# " &')#
(+,-./"01# .1+ # "1#T, F3#-# (^T(1+/,)(#01# " &')#(+,-./"01#T)O#-T"/.#
LT05/C+(! 03, /"01N# ' ! (#F((1#+(-3"1"1#&O!)#/' (#D(.)57# <(!)/' (3(55#;
.993, (1/#5/./ (5#B/' #&)(./)O#-0: : .1+ #O!)# (50,)-(5#/(1+ #/O#F(#.F3(#/O#
+).B#: 0)(#9, 1+5#9)0: #/' (#, 1"01#&O!)1: (1/#FD#T)O!"+"1#&: ./-' "1#&
&).1/5;#B' "3(C)0(50,)-(CTO0)#5/./ (5#.)(#10/#.F3(#/O#+O#507#E1#&(1).3;# : .1D#
T00)#5/./ (5#9"1+ #/' ./#-(1/).33D#5T0150)(+ #5-' (: (5#+ "5/O)/#/' (")#T)"O)" /" (5#
.1+ #+ "530-./ (#/' (")#9"5-.3#.) .1&(: (1/5;#+(T)"! "1#&/' (: #O9#-(1/).3#9, 1+5#
B' (1#/' (D#B)O)(#10/#.F3(#/O# : ./-' #, T#/O#/' (#.+! .1-(+ #.1+ #)"-')#5/./ (57#
@' (#-015/ .1/#+ (: .1+ #O9#50: (#O9#/' (#5/./ (5;#T.)"- , 3.)3D#(-010: "-.33D#
3(55# .+! .1-(+ #5/./ (5;#B.5#/' ./#-(1/).33D#5T0150)(+ #5-' (: (5#5' O, 3+ #F(#
9, 33D#L6JJM#-(1/).33D#9, 1+ (#L4' ./,)! (+#">J66;#??K?QN;#F, /;# ./#/' (#
5.: (#/' (: #5/./ (5#5' O, 3+ #' ! (#.#5.D#*1#/' (: 7#@' (D#.350#9(3/#' ./#-(1/).33D#
5T0150)(+ #5-' (: (5#.)(#+(-"+(#.)F"/.)"3D#.1+ #, 1"3./() .33D#FD#/' (#, 1"01#
&O!)1: (1/#)) (5T(-/"! (#O9#B' (/')#/' (D#B)O)(#) (3(! .1/#/O#.#5/./ (#O)#10/#
+ "5/O)" /"1#&/' (#5/./ (5#T)"O)" /" (5# .1+ #+ "530-./"1#&/' (#5/./ (5#5T(1+ "1#&O1#
.--0, 1/#O#/' (#)(i , ") (: (1/#O9#-0, 1/()T.)/#5' .) (#/O#/' (#-(1/).3#5-' (: (57
__9/(1/#5/./ (#, 1"!) (5"/" (5#-0: T3."1#/' ./# .3/' O, &' #- (1/).3#, 1"!) (5"/" (5#
.--0, 1/#9O)#013D#. #5: .33#). -/"01#O9#5/, +(1/5#*1# " &')#(+,-./"01#*1#/' (#

E1+."#\$>HH

0JJ# \$j. 1+ ' D.3.# 7#P1#@'3.Y

01# -(1/)(K5/./(#)(3./"0157>R#E/#"5#.)&, (+#/ ' .#/ /' (#, 1"01#&O! ()1: (1/# : , 5/#3(##/ ' (#5/./ (5#B)"/(##/ (")#0B1#T3.DFOOY7#Z5#` 7#S#Z: F(+Y.);#/' (# .) -' "/(-/#O9#/' (#4015/'/ , /"01#O9#E1+ ". ;# ' .5#5. " +;#/' (#, 1"01#. 1+#5/./ (5#.) (# -). /(+ #FD#/' (#4015/'/ , /"01#O9#E1+ ("5#10/#5, FO)+ "1./ (#/O#/' (#O/')#"1# "/5#0B1#9"(3+;#. 1+##/' (#., /' O)"D#O9#O1("#5#)(i, ") (+#/O#-00)+ "1./ (#B/' # /' ./#O9#/' (#O/')#L. 5#i, O/(+##1#Z"D.)#>J6=N7#@' "5#5' O, 3+#F (#/' (#&, "+ "1#& T)"1-"T3(#"1#+(! (30T"1#&-00T). /!" (#9(+). 3'5: 7

@' (#6HQ?#` 5<+%52/F+2-7J/+%/=&\$75<+%#LPO! ()1: (1/#O9#E1+ ". #6HQ?N# ' .+ #) (9()) (+#/O#n: (. 1"1&9, 3#T.)/1 ()5' "T#F /B((1#/' (#, 1"01#&O! ()1: (1/# . 1+##' (#5/./ (57#E1#) (- (1/#D(.). 5;#/' (#T) (9) (1- (#O9#/' (#, 1"01#&O! ()1: (1/# "5#/O# ' .! (##-OCOT). /!" (#9(+). 3'5: \;#10/#-00)-! (#9(+). 3'5: #9O)#. #5/O1#& S(T, F3"-#L>J6>N7>=

S(- (1/#F, +&(/5#O9#/' (#, 1"01#&O! ()1: (1/#.) (#. 350# "1+ "-. /!" (#O9#/#O# " : TO)/. 1/#3"Y(3D#/) (1+57#@' (#, 1"01#&O! ()1: (1/#5((: 5#/O#F (#9. !O,)"1#& -, /5# "1#- (1/). 3W- (1/). 33D#5TO150) (+#5-' (: (5# "1#&(1O). 3;# "1-3, + "1# "1#/' (# (+, -. /"01#5(-/O)7>?#G, -' #.#: O! (#' . 5#F((1#T) (- (+ #FD#.# ' "&')#3(! (3# O9#9"5-. 3#+ (!O3, /"01#O9#) (50,)- (5#/')O, &' #/' (#2"1. 1- (#40: : "55"017#Z5# T) #/' (#) (-0: : (1+ . /"01#O9#/' (#6R/' #2"1. 1- (#40: : "55"01#.# -- (T/(+ #FD# /' (#&O! ()1: (1/;# 5# " &' #. 5#R>#T) #- (1/#O9#/' (#+ " "5" F3(#TOO3#O9#- (1/). 3#) (! (1, (5# B0, 3+ #F (# + (!O3! (+ #/O#5/./ (5# +,)"1#&#>J6=K>J6?# /O#>J6HK >J>J;# . &. "15/#0>#T) #- (1/#5, &&(5/(+ #FD#/' (#T) (! "O, 5#L60/' N# 2"1. 1- (# 40: : "55"017#@' "5# "5# "1/(1+ (+#/O# 330B#5/./ (5#/O# ' .! (#3.) &)-O1)O3#O! ()# /' (")#+ (5") (+#9"5-. 3#+) (- /"01;#T)"O)" /" (5#. 1+.#.) (5#O9#": T)O! (: (1/#. 1+ # "5#3"Y(3D# /O# "1-) (. 5(#5/./ (5#9"5-. 3#., /O10: D# /O#, 5(#/' (#) (50,)- (5# "1#. 1D#

>R#G((#nG.)Y.). #40: : "55"01#. 1+ #E/5#S(-0: : (1+ . /"015#LE1/) ()G/./ (#40, 1-"3# G(-) (/.) . /;# < (B#U(3' "N#90) (TO)/5# 1+ #) (-0: : (1+ . /"015#O9#/' (5(#-0: : "55"015# Z! . 3.F3(#. /# //TaWW"1/Q)5/./ (0-1, 0-"371"-7"1WG.)Y.). v40: : "55"017' : 3y#L)() "(+ #

5(-/0)#/' (D#B0, 3+#3"Y(#/O#90-, 5#017#@' (#/)(1+#"5#B(3-0: (+#FD#: .1D#
5/./ (5;#F, /;#. /#/' (#5.: (#"/: (;#50: (#' .! (#.TT)(' (15"015#/' ./#/' (#5/./ (5#
: .D#10/#1(- (55.)"3D#5T(1+#/' (#. ++"/"01.3#)(50,)-(5#01#/' (#T)O&).: : (5#
09#1./"01.3#T)"0)/D#-,))(1/3D#9, 1+ (+#FD#-(1/).33D#5T0150)(+#5-' (: (57

0J># \$j. 1+ ' D.3.# 7#P7#@*3.Y

/' (#)03(#09#/' (# [P4#"1#9, 1+"1&#' "&')#(+, -./"01#"5#, 1+()#i , (5/"01;#
.5#/' (#1(B3D#-)(./(+%*2Z#: .D#/.Y(#.B.D#/' (#)(5T015"F3"/D#9)0: #' (#
[P4#09#.330-./"1&#)(50,)-(5#/0#, 1"!)5"/"(57

E1#/' (#.F5(1-(#09#. #-3(.)#. 1+##-0' (5"! (#T03"-D#5#./(: (1/#: .Y"1&#. #
9"): #-0: : "/: (1/#/0#5#./(:#9, 1+"1	#" "&')#(+, -./"01;#/' (#&)0B/' #09#
' "&')#(+, -./"01#-0, 3+#F(#5, Fh(-#/0#.33#Y"1+5#09#! .&.)"(5;#, 1-()/."1"/"(5#
.1+##"15/.F3"/D7#A)"1"-T3(5#09#. +(i , .-D;#(i , "/D;#(^-(33(1-(# .1+#5#/(.+D#
&)0B/' #5' 0, 3+##&, "+(#/' (#T)0-(55#09#.330-./"01#09#)(50,)-(5#/0#" "&')#
(+, -./"01#FD#/' (#, 1"01#&0!)1: (1/#.5#B(33#.5#5#./(:#&0!)1: (1/57#E1#. #
9(+).3#5D5/(: ;#/"#5#.350#1(-.55.)D#/O#(15,)(#/' .!#/')(#"5#)(#&"01.33D#F.3C
.1-(+##+(!30T: (1/7#E/"#5#10/#-3(.)#B' (')#/' (#S[GZ#.1+W0)#%*2Z#
B0, 3+#9, 39"3#/' (5(-)/()#"#1#(15,)"1&#. #50, 1+#9"1.1-".3#F.5(#90#" "&')#
(+, -./"017#Z#301&C/(: #T3.1#90)#/' (#+(!30T: (1/#09#" "&')#(+, -./"01#
' ./"#1-3, +(5#. #301&C/(: #9"1.1-".3#T3.1#90)#' "&')#(+, -./"01#"5#-)"#C
-.33D#1((+(+7#E/#5' 0, 3+##+(5-)"F(#/' (#)(3.!"!)#03(5#09#/' (#, 1"01#. 1+#5#./(:#
&0!)1: (1/#"1-3, +"1&#/' (")#(5T015"F3"/"(5#90)#T3.11"1&#;#9, 1+"1&#. 1+#
+(3"!)"1&#" "&')#(+, -./"01#. 1+## 0B#/' (D#-0: T3(: (1/#(.-' #0/')7

ZE4@*7#6HHR7#G)4+*~/+0<8)/B-38'F+X)'/M+, , <<))/0+*/H+I-2.5<+%/+0/; &&<+<#52/
G)+\$*7)./0+*/R)78%-752/=#&\$75<+%#LGB.: "1./' .1#40: : //"((#S(TO)/N7#Z33CE1+.#
40, 1-"3#90)#@(-' 1"- .3#*+, -./"01;#<(B#U(3' "7

Z"D.);#G7#>J6=7#n4(1/)(#157#G./(\7#L%&-5/R+&5J;#6J#U(-(: F)7#Z! ."3.F3(#./# //TaWW
"1+."/0+. D7"1/O+. D7"1W5/O)DW"1+ ".C/O+.DCRJI' C.11"!)5.)DC-(1/)(C!5C5#./(:C
5' .1YY.)C."D.)W6W=R06>H7' /: 3

Z3/F.-';#A7#P7#>J6>7#; /B520/M)%<\$*J/+0/L%&-5%/B-38)*=#&\$75<+%#7#<(B#U(3' "a#GZP*7
Zd.: ;#87#. 1+## 30: ;#Z7#>JJH7#nA)0&)(55#"1#A19342.87%3(+1(%))TJOT)17%3(+Zd.: ;3);#(Zd.

` .5, ;#U7#] 7#6H?=7#M+, ,)%5*J/+%/<8)/M+%.<-\$<+%/+0/L%&-5;#I/' # (+/"017#4.3-, // .a#
 G7#47#G.)Y.)#t#G0157
 4Z` *7#>JJ=7#G)4+*~/+0/<8)/M; ! =/M+, , -<>)/+%/6-%5%7-%3/+0(B-38)*5%&/R)78%-752/
 =&\$75<+%7# <(B# U(3' "a# 4(1/).3# Z+! "50)D#` 0.)+#09# *+, -. /"01;# 8"1"5/)D# 09#
 %, : .1#S(50,)-(#U(! (30T: (1;/#P0! ()1: (1/#09#E1+"7#Z! ."3.F3(#./#' //TaWW
 : ') +7&0!7"1W5"/(5W, T30. +v9"3(5W: ') +W9"3(5W+0-, : (1/C)(TO)/5WS(TO)/M>J
 4Z` *M>J40: : " //(M>J01M>J2"1.1-"1&M>J%"&' ()M>J.1+M>J
 @(-' 1"- .3M>J*+, -. /"01b7T+9
 4.)10D;#87;#.1+#U055.1";#S7#>J607#nPO.35#.1+#P0! ()1.1-(#09#%"&' ()#*+, -. /"01#
 "1#E1+" .\7#B-38)* /=&\$75<+%#?=#L=#a#=#H=K?6>7
 4.)10D;# 87;# b0D.3Y. ;# A7;# U0F)D.YO! .;# 87;# U055.1";# S7;# 2)0, : "1;#E7;#] , ' 15;#
]7;#@"3.Y;#j7;#.1+#g .1&#S7#>J607#O%#@)".<J/ =>45%.+%/-%/M85%3-%3/A2+152/

OJR# \$#j.1+ ' D.3.# 7#P7#@*3.Y

8(' /.# 7#A7#>JJR7mZ99') :./"01#B"/' 0, /#S(5()!./"017#=-7%+, -7/5%/F+2<-752/C))D2J#
OH#L>|Na#>H=6K>H=R7

8%SU7#>JJH7#?<5.<7./+0/B-38)*75%/R)78%-752/=&\$75<+%/TUUWFTUUDa#<(B#U(3' "a#
PO! ()1: (1/#09#E1+".#8"1"5/D#09#%, :.1#S(50,)-(#U(! (30T: (1/7

8%SU7#>J6=7#; #52J.-/+/0! \$&3)<)/=>4)%&-<\$*)/+=&\$75<+%/TUVVFTUUVT/<+TUVef
TUV[7#<(B#U(3' "#8"1"5/D#09#%, :.1#S(50,)-(#U(! (30T: (1/;#PO! ()1: (1/#
09#E1+".#Z!."3.F3(#./# //TaWW: ') +7&O!7"1W5"/(5W, T30. +v9"3(5W: ') +W9"3(5W5/./"5C
/"-5WZ` *v>J66C6R7T+9

q q q 7#>J6?7#; 2' L%&-5/?\$*J/ +%/ B-38)* / =&\$75<+%/ TUV [fTUVW7# <(B#U(3' "a#
PO! ()1: (1/#09#E1+".#Z!."3.F3(#./# //TaWW: ') +7&O!7"1W5"/(5W, T30. +v9"3(5W
') +W9"3(5W5/./"5/"-5WZEG%*v>J6RC6=M>OAM>H7T+9

q q q 7#>J6?F7#M+%, <<\$+%52/ F*+@.-+%K/ M)%<)'?<5<)/ G)25<+%.7# <(B#U(3' "a#
PO! ()1: (1/#09#E1+".# //TaWW: ') +7&O!7"1W-(1/)(C5/./)(C)(3./"015

q q q 7#>J617#; 2' L%&-5/?\$*J/ +%/ B-38)* / =&\$75<+%/ TUVW' TUVd7# <(B#U(3' "a#
PO! ()1: (1/#09#E1+".#Z!."3.F3(#./# //TaWW: ') +7&O!7"1W5"/(5W, T30. +v9"3(5W
') +W9"3(5W5/./"5/"-5WZEG%*v>J6=C6?M>OAM>H7T+9

<ZZ47#>J6?7#; %\$52/G)4+<TUVd7# .1&.30)(a#<./"01.3#Z55(55: (1/#.1+#Z-)(+/"01#
Z&(1-D)#Z!."3.F3(#./# //TaWW1..-7&O!7"1W+0-5WZ11, .3vS(TO)/v6=C6?7T+9

<."Y;#7#A7#6H?07#R8)/G+2/+/A+@)*%,)%</+0L%&-5/!/= &\$75<+%/7#<(B#U(3' "a#8"1"5/D#
09#*+, -./"01;#PO! ()1: (1/#09#E1+"7

<."Y;#7#A7#.#.1+#<.), 33.'#G7#6HR=7#; /?<\$&)%<P/B-.<+J/+/+=&\$75<+%/-%/L%&-5/VcUUF
VZbe;#?/' #(+/"01;#6H R7#<(B#U(3' "a#8.-: "33.17

<."#;#7#.#.1+#j."1#[7#47#>JJJ7#M)%<)'f?<5<)/G)25<+%.7#j."T,)#A0"1/)(#A, F3-./"0157
<./"01.3#j] 10B3(+&(#40: : "55"017#>JJH7#G)4+<f/<+/-8)/ 5<+%/TUUdfTUUZ7#<(B#
U(3' "a# PO! ()1: (1/#09#E1+"7#Z!."3.F3(#./# //TaWWY10B3(+&(-0: "55"01C

.)-' "!(71-7"1W+0B130. +5W)(TO)/>JJHW(1&W)(TO)/JH7T+9

A3.11"1&# 40: : "55"017#>J607#RX)20-8/6-@)'h)5*/F25%/]TUVTfTUVb*W/65.<)_/H+<)/
L%72\$.-@)/5%&/?\$.5-5%12)/A*+X<87#<(B#U(3' "a#PO! ()1: (1/#09#E1+"7

S.0;#X7#] 7#S7#X7#6H1>#n4(1/)(KG/./(#S(3./"015#1#*+, -./"017#E1#R8)/O%-+%/5%&/
&8)/?<5<).#(+)/(+F#D#G7#<7#j."1;#G7#47#] .5'D.T.#.1+#<7#G)"1".5;#61QK607?#<(B#
U(3' "a#<./"01.3#A, F3"5"1#&#%0, 5(

G' .): .;#7#>J6?7#m2!"(#C.)#A3.15#8.D# (#G-).TT(+;#G.D5#<E@E#Z.DO#Z).!"1+#
A.1.&.)"D.7#R8)/=7%+, -7/R-), ;#0#8.)-' 7#Z!."3.F3(#./# //TaWW(-010: "-/:(57
"1+."/:(57-0: W1(B5W(-010: DWT03"-DW9!(CD)(.CT3.15C: .DCF(C5-).TT(+C
5.D5C1"/C. .DO&C!-C.)"1+CT.1.&.)"D.W.)/"-3(5' OBW=6>>H?R=7-: 5

G'F.3#j] 7#>JJH7#m@' ()(#E5#<O#A.)/1(0)'T# /B((1#/' (#4(1/)(#E.1+#G/./)(57#G03, /"015#
Z) (#<((+#+#F, "-Y3D7#L%&-5/R+&5J;#61#G(T(C: F)7#Z!."3.F3(#./# //TaWW"1+"C
/0+.D7"1/0+.D7"1W5/0)DW' ()(+5+10+T.)/1(0)'T+F/B((1+/' (+-(1/)(+.1+5
/./)(57+503, /"015+.)+(1((+(+#+i, "-Y3DW6W?>>H67' /: 3

GB.: "1./ .1;#S7#>JJ7#mZ55: T/"015#.#.1+#Z)"' / ("#0#4.5/(CF.5(+#S(5)!./"0157#
=7%+, -7/5%/F+2<-752/C))D2J#R6#L>RNa#>R0?K>RO07

@*3.Y;#j] 7#P7#6HQH;#<O! (: F)7#m4(1/)(KG/./(#S(3./"015#1#2"1.1-1#&*+, -./"01#
"1#E1+."7#M+, 45"5<@)/=&\$75<+%/52/G)@)X#00#LRNa#R=JKR0J7

@3.Y:#j7# 7#P#6HHJ7# @' (#AO3#/'-.3#*-010: D#09#*+, -/'01#1#E1+.'\7GT(-.3#G/, +"(5# <07#>R:#40: T.)!/(#*+, -/'01#4(1/);#G/./(#[1"!)5"/D#09#<(B#c0)Y#.# ` ,99.30#L"1#-033.F0)"/01#B"/' #' (#[1"!)5"/D#09#X"&"1".#7

q q q q 7#6HHH7#*:)("&"1&#@)(1+5#.#1+*#*!03!"1&#A, F3"-#AO3"- (5#01#A)! ./'5./'01#09# %"&')#*+, -/'01#1#E1+.'\7#E1#F^@5<)/F*+, >8)\$./K/F^@5<)/B-38)*!/=&\$75<+%/5%&/ :)@2+4,)%<-%/<8)/TV.<M)%<\$*J_#(+)/(+#FD#A7#P7#Z3/F.-' ;#660K60=7#g (5/T0)/;# 4#@#P)((1B00+#A, F3'5" "1&7

q q q q 7#>JJQ7#n@).15"/"01#9)0: #%"&')#*+, -/'01#.#5.#A, F3"-#P00+#/0#%"&')# *+, -/'01#.#5.#A)! ./(#P00+#@' (#G.&.#09#E1+."1#*^T)"(1-(\7#+\$*52+/0; .5%/ F\$127/F+27J#6#L#>>JK>0R7

q q q q 7#>J6J.7#n%"&')#*+, -/'01#1#E1+.#a#*:)("&"1'.33(1&(5#.#1+*#*!03!"1&# G/./(&)(5#7#E1#R8)/)5"7#0+*/' X/A+@)%5%7)/+0/B-38)*!/=&\$75<+%/-%/; .-5;#(+)/(+# FD#] .C%0#80Y#616K6H67#<(B#c0)Y#;#<C#a#A.3&).! (#8.-: "33.17

q q q q 7#>J6JF;#8.D#67#n@' (#A)0T05(+<4%*Sa#Z#G03, /'01#g0)5(#@'.1#/' (# U"5(.5(r#7=7+%, -/5%/F+2<752/C))D2J#R=#L6Q#A#6JK607

q q q q 7#>J667#nA)! ./(#G(-/0)#"1#%"&')#*+, -/'01#.#Z#2(B#G/D3"d(+#2.-/5#7# E1#O\$52<J_/; 77)../5%&/?+7-52N\$.<7)/-%/B-38)*!/=&\$75<+%;#(+)/(+#FD#] 7#<7#A.1"YY.);# @' 0: .5#j05(T' ;#P#P(C/' .;#.#1+#87#Z7#b.3;#66K007#<(B#U(3' "a#A(.501W b01&: .17

q q q q 7#>J677#nZ#U(-.+(#09# [T5#.1+#U0B15#"1#A, F3"-#*^T(1+/,)(#01#%"&')# *+, -/'01#7#E1#L%&-5K/B-38)*!/=&\$75<+%/G)4+*#;#(+)/(+#FD#<7#X7#X.)&' (5(#.#1+# P7#8.3"Y;#0JIK00>7#b01+01a#S0, /3(&#(W<./'01.#3[1"!)5"/D#09#*+, -/'01.#3 A3.11"1&#.#1+#Z+: "1"5)"/"017

q q q q 7#>J6Q7#:-2), 5./-%/G)0+*, -%3/B-38)*!/=&\$75<+%/-%/L%&-57#<(B#U(3' "a#_)"(1/# `3.-YGB.17

[P47#6HH07#QAM/6\$%&-%3+/0/L%<<\$<+%/+0/B-38)*!/=&\$75<+%#Lj, 5"/-(#)7#A, 11.DD.# 40: : "/((#6HH>K6HH>#7#<(B#U(3' "a#[1"!)5"/D#P).1/5#40: : "55"017

q q q q 7#>JJR7#G, T): (#40,)/#j, +&: (1/#01#A)! ./(#[1"!)5"/(5#1#4' ./'5&.)' 7# [P4;#P0!)1: (1/#09#E1+."7#Z! .3.F3(#.#//Ta#W#B#B7, &-7.-7"1W5, FT.&(W G, T): (C40,)/Cj, +&: (1/C4' ./'5&.)' 7.5T^

q q q q 7#>JJQ7#B-38)*!/=&\$75<+%/-%/L%&-5K/L.\$)./G)25<)/<+/=45%.+%/L%72\$.@)%.../ O\$52<J/5%&/6-%5%7);#6J0K66J7#<(B#U(3' "a#[1"!)5"/D#P).1/5#40: : "55"017

g ("55Y0T9;#@' 0: .5#*#>JJR;#G(T/(F))#>7#E: T.-/#09#S(5)! ./'01#01#Z+: "55"015# /0#%"&')#*+, -/'01#1#E1+.'\7#7=7+%, -/5%/F+2<752/C))D2J#0H#L0H#A#R00HKRORH7

g' .)(;#]7#47#6H=07#6)&)*2/A+@)%%,)%<#0)+#(+/'01#7#b01+01a#_#^90)+7

7"1%55,3'.A'0%)%&,1"35"/, '!"\$#16':.1"-+"8%)',/)'
9%5"K)%+%/-&,1"8%)'963-%5

80+()1#9(+).3"5: #9.-(5#.##-(1/).3#+ "3(: : .#0! ()#-0: T(/"1&#+(: .1+5#
90)#(i, "/D#.1+#(99"- "(1-D7#_1#/' (#01(#'.1+;#&O! ()1: (1/5#9.-(#T)(5C
5,)(#/O#F(-0: (#: O)(#(i, "/.F3(#.1+#+(: 0-)./"-#FD#(^T.1+"1&#. --(55#
.1+;#T.)/"-T./"01#"1#/' (#+"5/) "F, /"01#09#)(50,)-(57#_1#/' (#0/' ()#' .1+;#
50-"/D#(^T(-/5#/' (: #/O#. -' "(! (#(-010: "-#&)OB/' #.1+;#9, 39"3#-0: : "/C
: (1/5#/O#(99"- "(1-D#.1+;#).15T.) (1-D#"1#T, F3"-#: .1.&(: (1/7#8, -' #09#
/' (#-01/(: T0.)D#+(F./(#0! ()#&O! ()1.F"3"/D#-(1/)(5#01#/' "5#+ "3(: : .;#
B'"-' #90): 5#T.)/#09#. #3.)&()#+(F./(#0! ()#+(: 0-)./"-#T).-/"-(5#LP" F501#
>JJRV#b(-' 1())#6HHI W#g. //5#>J6JN7#

@' (#9(+)./"01#T)0! "+(5#. #9, 1-/"01.3:#.3F("/#9.)#9)0: # -0: T3(/(:#
503, /"01#/O#/' (#F.5"-#T)OF3(: 5#09#+(: 0-)./"-#&O! ()1.1-(W#"/#. ++5#.#
1(B#+": (15"01#/#/' (#).+/"01.3#)(T, F3"- .1#90): , 3.#09#/' (#+"! "5"01#09#
TOB()5;#.1+;#"1#/' (O)D;#9. -"3"/.(5#/' (#T)O-(55"1	#30-.3#T03"- "(5#.1+;

9) . , & / #B"/' #'1/(1.3#-0193"-/57#@' (D# 350#9. -(#-. T.-"/D#-015/)."1/5;#T.)C
/'- , 3.)3D#./#/' (#5, F1."/01.3#3(! (35#L23.: .1+#>J6JN7#E: T3"-/'#1#/' (#5D5/(: #
"5#-0: T(/"/'01#F(/B((1#/' (#-(1/).3#TOB()#09#.#1./'01.3#-' .).-/()# .1+#
/' (#30-.3# 550-"/(5;#1#/' "5#-.5(#/' (#!) "0, 5#5, F1."/01.3#(1/"/'(5q)(&"015;#
5/./ (5;#+"5/)"-/5;# : , 1"-T.3/'(5;# : 01�/')57# Z--0)+"1&#/#0#G "33": #
S"Y()#L6H?RN;#.33#9(+.) .3"5/#)(& : (5#9.-(#.#-01/"1, (+#-3.5' #09#"1/)(5/5#
09#.#T03"/'-.3#.1+#(-010: "-#1./,)(7#_1#/' (#01(# .1+;#/' (#30-.3#(1/"/'(5#
5((Y#.--(55#/0#.#&)OB"1' .)(#09#)(50,)-(5#+#5/)F, /(+#FD#/' (#-(1/).3#
TOB()# 5#B(33# 5#1-)(.5(+#"193, (1-(#"1#/' (#+(-"5"01C: .Y"1&#T)0-(55(5#
.99(-/"1&#/' (#(1/"')(#&)0, T7#_1#/' (#0/'):#/' (#9(+.)3#&0! ()1: (1/#(1+5#
/0#.-, : , 3./(#)(50,)-(5# .1+#.//)"F, /"015#1#.#F#+#/#0(15,)(#"/5#-01/)03#
0!)#/' (# : D)".+#5, F1."/01.3#(1/"/'(57# G ' (1#-0: T(/"1&#.-/)5# .1+#
90)-(5#B"/' #+"99)(1/#T03"/'-.3#T)Oh(-/5#(1/)#/' "5#-0: T(/"/'(#.)(1.q /' (#
-3.55"-#5-(1.)"0#09#/' (#/).15"/"01#9)0: # , /0-)./'-#/#0# : 0)(#+(: 0-)./'-#
)(& : (5q /' (#)(5, 3/"1/.F"3"/D#/')(./(15#/' (#0)"&"1.3#T,)T05(#09#/' (#
9(+.) .3"5/#5D5/(: 7#

@0#)(+ , -(#/' 05(#/(15"015;# : .1D#&0!)1: (1/5#'. ! (#.#+0T/(+#3(&.3#
10): 5#/' ./#)(&, 3./(#/' (#,)"5+ "-/"015"09#/' (#9(+.)/"01# .1+#/' (#9(+.)/(+#
(1/"/'(57# Z10/')#-0: : 01#T).-/'-(#-015"5/5#09#/' (#-(1/).3# , /' 0)"D#
5(/"1./"01.3#5/.1+.)+5#"1#-()/."1#.)(.5# .1+#/' (1#(: TOB() "1&#/' (#
(1/"/'(5#/#0#.-' "(! /' 05(#5/.1+.)+5#B"/' "1#/' (")#(5T(-/"! (#-01+/"015#
.1+#-)"- , : 5/.1-(57#E1#T).-/'-(;#/' (#(99"- (1-D#09#5, -' #503, /"015#+(T(1+5#
T)": .)"3D#01#/')((#3(: (1/5q /' (#-.T.-"/D#09#-(1/).3# .1+#30-.3# , /' 0)"C
/'(5#/#0#.!0"+# , 11(-.55.)D#0!)3. T#1#/' (#.TT3"-./"01#09#T, F3"-#T03"- (5V#
/' (#.#+(i , ./(#+"5)"F, /"01#09#9"5-.3#)(50,)-(5V# .1+#.#5D5/(: #09#(-010: "-#
) (50,)-(5# .1+#T03"- (5#0)"(1/(+#/OB.)+5#.-' "(! "1&#-()/."1#5/.1+.)+5#
LS0+)k&, (dCPI : (d#>J6RN7#

E1#-0, 1/)"(5#5, -' #.5#8(^-0;#"1#B' "-' #/' (#(-010: D# .1+#/' (#T03"/'-.3#
5/), -/ ,)(5#.)(#5/"33# , 1+)&0"1"&1"9"- .1#/').1590): ./"015;#/' (#-01503"C

0J0# \$E: .103#_)0)"Y.:#S0F()/0#S0+)k&, (dCPl : (d#.1+#8.)"01#b30D+#

+!" +(+#.301&#T03"/"- .3#3"1(5#.1+#/' (#(^"5/(1-(#09#5/)01&#.1+#-015/.1/#
T03"/"- .3#+5T,/(5#0! ()#(50,) -(5#.1+#5T. -(5#90)#T03"/"- .3#.-/"01#L8.h(+;#
g./5#.1+#`)0B1#>JJ?N7#G, -' #/(15"015#1(- (55.)"3D#3": "/#/' (#(99(-/"! (#
": T3(: (1/./"01#09#9(+).3"5/5#5D5/(: 5;#3": "/"1&#/' (#+(#) (#/0#B' "-' #
/' (#9(+).3#&O! ()1: (1/#+(!03! (5#T0B())#0#/' (#5/./(#.1+#30-.3#3!(357

8(^"-0#9")5/#.+0T/(+#.#9(+).3"5/#5D5/(: #1(.)3D#/B0#-(1/,)"(5#.&O:#
F,/#3./()# ,1+()B(1/#301&#T()")O+5#09#+(#9.-/0#-(1/).3"5: 7#@' (#T)O-(55#
' .5#F((1#: 0)(#-D-3"- .3#/' .1#3"1(.)7#U,)"1&#: , -' #09#/' (#/B(1/"(/' #
-(1/,)D;#/' (#-0, 1/)D#B.5#), 3(+##FD#.#' "&' 3D#-(1/).3"d(+;# , /' 0)"/).1;#
01(CT.)/D#)(&": (#/' ./#B.5#9(+).3"5/#: ."13D#"1#1.: (7#E1#: .1D#-.5(5;#
/' (#5/./ (5#5": T3D#.-/(+#0, /#/' (#"15/), -/"015#09#/' (#9(+).3#&O! ()1: (1/#
L23.: .1+#>J6JN7#

` D#/' (#(1+#09#/' (#3.5/#-(1/,)D;# ' 0B(!);#/' ./#T.10):. #F(&.1#
/O#5' "9/#5"&1"9"- .1/3D7#E1#6HHI ;#90)#/' (#9")5/#/" : (#5"1-(#/' (#8(^"- .1#
S(!03,/"01;#10#T.)/D#'(3+#.#: .h0)/D#"1#/' (#9(+).3#-01&)(557#@')(#
D(.)5#3./()# .1#0TTO5"/"01#-.1+"+. /(#B01#/' (#T)(5"+(1-D#90)#/' (#9")5/#/" : (#
"1#I6#D(.)5;#(1+"1&#/' (#+(-.+ (5C301/).1&3(' 03+#09#/' (#E15"/, /"01.3#
S(!03,/"01.)D#A.)/D#LASEN#./#/' (#1./"01.3;#5/./(#.1+#: , 1"-T.3#3!(357#
@' (#!"-/0)D#FD#A)(5"+(1/#X"-(1/(#20^;#09#/' (#-015()!./!" (#<./"01.3#
Z-/"01#A.)/D#LAZ<N;#-, 3: "1./(+66#D(.)5#09#0TTO5"/"01#&."15#./#/' (#

8 (^"-0# \$# 0JH

06J# \$E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#.1+#8.)"01#b30D+#

T)0: 0/"1-.3#.1+#)(&"01.3#+(! (30T: (1/#.1+;#F0! (#.33;#-0: F./"1&#
B"+(5T)(.+##0!()/D#.1+#"1(i, .3"/D;#B' "-'#!.)"(5#-015"+).F3D#9)0: #
5./(#/0#5/./(#20)#(^.: T3(:#"1#>J6R;#/'(#T0!()/D#)./(#"1#4' ".T.5;#30BC
"1-0: (#/./(#"1#/'(#50, /' ;#B.5#I?#T)##-(1;#B')(.5#/' (# '&')#"1-0: (#
5/./(#09#<, (!0#b(01#"1#/' (#10)/' #' .+#.#T0!()/D#)./(#09#>J#T)##-(1/#
L4_< *XZbCE< *PE#>J6RN7

E1#/' "5#-' .T/();#B(#(^.: "1(#9(+).3"d./"01#09#01(#5)/.(/&"-#.)(#09#&O!C
()1: (1/#"193, (1-(q' "&')#(+, -./"017#E1#/' (#-01/(/^/#09#&30F.3"d./"01#
.1+#/' (#Y10B3(+&(#50-"(/D;#/' (#": T0)/.1-(#09#' "&')#(+, -./"01#.5#.1#
(1&"1(#90)#(-010: "-#.1+#50-.3#-' .1&(#' .5#T)' .T5#1(!) #F((1#&)(./()7#
Z#5,)&#"1#+(: .1+#90)#-033(&(#+(&)(5#'.5#T, 5' (+#: .1D#-0, 1/)"(5#/O#
(^T.1+#.1+#+"!)5"9D#/' (")#/()/".)D#099()"1&5;#.5#T.)/#09#/' (#: .55"9"-./"01#
T)0-(55#, 1+)B.D#5"1-(#/' (#6H1J57#<01(/' (3(55;#"1#8(^"-0;#.5#"1#0/')#
+(! (30T"1&#-0, 1/)"(5;#.-.(55#0# " &')#(+, -./"01#): ."15#3": "/(+;#B' "3(#
5)01&#"1(i, .3"/" (5#T)5"5/#.: 012-.3#-3.55(5;#)(&"015#.1+#/DT(5#09#
"15"/, /"0157#E1#>J6=#&)055#(1)03: (1/#B.5#b, 5/#OR#T)##-(1;#B(33#F(30B#
/' (#b./"1#Z:)"- .1#!() .&#"1#>J6>#09#R6#T)##-(1/#L8(1+0d.#>J6>N7#

8 (^"-0# \$# 066

06># \$E: .103#_)0)"Y:;#S0F()/0#S0+)k&, (dCPl : (d# .1+#8.)"01#b30D+#

LX.3(1-.#>JJ0N7#@' (#+"5T,/(#F/(B((1#9(+).3'5: #.1+#-(1/).3'5: #
+0: "1./(+##' (#9)5##/')(##+(-.+5#09#8(^"- .1#*1+(T(1+(1-(;#.1+#B.5#
.)#(-,))(1/#50,-)#09#-0193'-##/)'0, &' 0, /##' (#-(1/,)D#LX#tdi , (d#6HH0N7#

U,)"1&##/ (#6Q=J5;#8(^"-0# .+0T/(+.#5(/#09#3"F().3#)(90): 5;#B' "- ' #
)5, 3/(+##"1#/' (#5/)01&3D#9(+).3'5/#4015"/, /"01#09#6Q=17#Z#D(.)#3./()#
` (1"/0#j, t)(d#B.5#3(-/(+##0)##/ (#9)5/#09#9"! (#/(): 5#*1#099#-(7#%0B(!)#;
B.)#5001#F)OY(#0, /#F/(B((1#3"F().35# .1+#-015!) !/! (5;#90330B(+##FD#
' (#2)(1- ' #E1! .5"01#*1#6Q?6# .1+#/' (#/'/')(CD(.)#), 3(#FD#* : T()0#
8.^": "33".1;#5./)"1&#*1#6Q?R7#j, t)(d#(&."1(+##TOB()#*1#6Q?I#.1+#F(&.1#
' (#T()0+#Y10B1#5#/' (#S(5/0)(+##S(T, F3'-;#*1#B' "- ' # (#50, &' /#0/0
": T3(: (1/#: .1D#09#/' (#: 0+()1"d"1&#)(90): 57#

@' (#9(+).3'5/#T()0+#"+#10/#3.5/#: , -' #301&()##/ .1#j, t)(d;#B' 0#+"(+##
"1#099#-(#*1#6QI >7#20,)#D(.).5#3./()#AO)9)"0#Uk.d# .55: : (+##/ (#T)(5"+(1-D#;
.1+#/' (#-0, 1/)D#(: F.)Y(+##01#.#0=CD(.)#T()0+#09#+(##. -/0#+ -./0)5' "T#
L6QI?K6H66N#Z3/' 0, &' #8(^"-0#)(: ."1(+##-015"/, /"01.33D#.#9(+).3'5/#
5./(/;#Uk.d#)(+, -(+##/ (#-015"/, /"01.3#*15"/, /"015#0/#.##T,)(3D#5(: .1/'-#
3(! (3#2(+).3'5: #013D#(^"5/(+##01#T.T()#B' *3(#1#)(.3'/D#/' (#&0!) ()1: (1/#
B.5#(! (1#: 0)(#-(1/).3'd(+##LX.3(1-.-.#>JJ0;#0?0N7

Uk.d\5#+#5)(&.)+##0)##/ (#9(+).3'5/#T.-;/# .1+#90)##+(: 0-)./'-#T)"1-"T3(5#
"1#&(1().3;#9"1.33D#3(+##0# "5#0!) /')0B#*1#6H667#%0B(!):#/ (#, T)"5"1&
&."15/# "5#&0!) 1: (1/#B.5#350#.#/(5": 01D#0#/' (#5/)(1&' #09#/' (#30-.3#
.1+#)(#&01.3#9.-/"015#*1#.#-0, 1/)D#B' 05(#TOT, 3./"01#B.5#5/"33#T)": .)"3D#
,).3# .1+#&(0&).T' "-.33D#+#5T()5(+7#[1+()#/' (#530&.1;#(99(-! (#5, 99).&(:#
10#)(C(3(-/"01\;#30-.3#3.1+0B1()5# .1+#T(.5.1/5#/00Y# , T#.): 5#.&."15/#
' (#&0!) 1: (1;/#/)##&()1&##/' (#+(-.(C301&#-#"1#3#B.)#Y10B1# .5#/' (#
8(^"- .1#S(! 03, /"017#2"1.33D;#*1#6H6I#.1+#B#/' #.1#(5/": ./(+##6# : "33"01#
-.5, 3#/(5;#/' (#! -/0)0, 5#5#+(##).9/(+##.1(B#4015"/, /"01#F.5(+##): 3D#01#
9(+).3'5/#T)"1-"T3(5#3/' 0, &' #9#&' /"1&#-01/'1, (+##0)##(!)0.3# : 0)(#D(.).57#

@' (#6H6I#4015"/, /"01;#B' "- ' #*5#5/"33#*1#(99(-;/#5.//(5#*1#Z)/"-3(#RJ#

@' (#B"33#09#/' (#8(^"- .1#T(0T3(#*5/0#-015"/, /(#.#)(T)(5(1/./!)#;
+(: 0-)./'-;#W.1+#9(+).3#S(T, F3'-;#-0: T05(+##09#9)((#.1+#50!) ("&1#
5.//(5#*1#(! 0D/' "1&#-01-()1"1&##/' (")"*1/()1.3# .99.")5#F, /#h0"1(+##"1#.#
2(+)./"01#(5/.F3'5' (+##--0)+#1�#/' (#T)"1-"T3(5#09#/' "5#9, 1+.: (1/.3#
3.B7#LPOF()10#+(#8m^"-0#6H6I#

@' (#-015"/, /"01#"/5(39#0T(15#/' (#B.D#/O#-0193"-/"1&#"1/()T)/./"015#09#
8(^"- .1#9(+).3"5: ;#"1-3, +"1&#/' (#T)O!"5"01#9O)#n9(+).3#"1/()!(1/"01#
/O#)(C(5/.F3"5' #0)+()7#@' ./#-(1).3"5/#: .1+./(#3(+#/O#/' (#(5/.F3"5' C
: (1/#09#.1#(99(-/"!(#01(CT.)/D#5D5/(: #"1#6H>H;#; 1+)#/' (#<./"01.3#
S(!03, /"01.)D#A.)/D#3./()#-.33(+#/' (#E15"/, /"01.3#S(!03, /"01.)D#A.)/DN7#
Z5#/' (#T.)/D\5#1.: (#": T3"(5;#/#50, &' /#/O#-(:(1/#.1+#+-(1).3"d(#/' (#&."15#
09#/' (#S(!03, /"01#B"/' "1#. #-015"/, /"01.3#0)+()7#E1#T).-/"-(;#/' (#T.)/D#
+(! (30T(+#. #-0: T3(^#-0)TO)./"5/#5D5/(: ;#B' "-' #+"!"+(+#Y(D#5(-/O)5#09#
50-"/D#"1/O#+"99() (1/#-0)TO)./"015#, 1+()#5/)"-/#9(+).3#-01/)037#C(/;#/' (#

06R# \$# E: .103#_) +0)"Y.;#S0F()/O#S0+)k&, (dCPl : (df.1+#8.)"01#b30D+#

/' ./#/' (#9"1.1-(#5(-)/.)D:#Z3F()/O#j7#A.1";#+(5-)"F(+##/#. #9"5-.3#1.)-' DV#
B"/' #n"11, : ().F3(#50,)-(5#09#-0)), T/"01#LS(D(5#>JJR:#QN7#@' (#9")5/#
/B0#-01!(1/"015#90-, 5(+ #01#5": T3"9D"1&#/. ^#-033(-/"01#/O#!0"+##+0, F3(C
/.^./"01#.1+#"1-).(5(#)!(1, (7#%0B(!);#/' (#T)0-(55#B.5#1/()), T/(+#
FD#/' (#015(/#09#G0)3+#G.)#EE7#` D#/' (#/' "+-01!(1/"01;#/' (#5D5/(: #
' .+ #F(-0: (#50#-0: T3(^#/' ./#/' (#+(3(&./ (5#' .+ #/O#5/./#!")/, .33D#9)O: #
5-)./' #"1##+(9"1"1	"5-.3#)(5T015"F"3"/" (5q(990)/5#/' ./#B() (#013D#T.)/" .33D#
5, --(559, 3#9)O: #.#9(+).3"5/#T()5T(-/"! (#LS(D(5#>JJRN7#

G "/' #/' (#9"1.1-.3#.1+#T03"/"- .3#-)"5(5#09#/' (#3./(#6HIJ5;#8(^"-0#
(: F.)Y(+ #01#.1#).#09#1(B#9(+).3"5: \#LX.3(1-"#>JJON7#E1#-01)/.5/#/O#
-3.55"- .3#9(+).3"5: ;#B' "-' #+"5/"1&, "5' (+ #F(/B((1#/B0#0)+)5#1#h, ^/.C
T05"/"01#B"/' #(-' #0' ();#/' "5#1(B#.TT)0.-' #OT()./(5#01#/' (#T)"1-"T3(#
09#/' (#+"5/"F, /"01#09#T0B());#-01+, -/(+##/')0, &' #: (-'.1"5: 5#09#-00TC
()./"01#.1+#-00)+"1./"017#Z: 01&#: .h0)#-' .1&(5#B() (#9"5-.3#)(90): 5#
.1+#: 0+"9-./"015#/O#/' (#9(+).3#T, F3-#.+: "1"5)/."017#@' (#T03"/"- .3#

T.)/"(5#5/.)/"1#/' (#3./(#6HQJ5#-, 3: "1./(+#"1#/' (#-033.T5(#09#01(CT.)/D#
) , 3(#"1#>JJJ;# , 5' ()"1#1(B#T)0-(55(5#09#+(: 0-)./"-#/) .15"/"017#g " '3(#
' (5(#T)0-(55(5#0-- ,))(+#B"/' #)(3./!"(#"1+(T(1+(1-(;#/' (D#90): #T.)/#09#
(990)/5#/0# .++) (55#/' (#(-010: "-#.1+#50-" .3#T)0F3(: 5#/' ./# .!(#(:)&(+
"1#8(^"-0#5"1-(#/' (#6HQJ57#

E1#)(5T015(#/0#/' (#5(!)#(-010: "-#-)"5"5#/) "&&)(+ #FD#T3, : : (/ "1#&
B0)3+#0"3#T)"-(5# .1+#/' (#+(F/#-)"5"5#09#/' (#6HQJ5;#/' (#9(+).3#&0! ()1C
: (1/#T ,)5, (+#.#5())(5#09#5/)./(&"(5#"1/(1+(+#/0#"15)/#8(^"-0#"1/0#/' (#
+D1.: "-5#09#&30F.3"d./"017#Z5#B"/' #0/' ()#b./"1#Z: ()"- .1#-0, 1/) "5;#/' (#
-0, 1/)D#. -/(+#"1#.--0)+.1-(#B"/' #/' (#5/ , -/ ,).3# .+h, 5/: (1/#T3.15#5/"T, C
3./(+ #FD#/' (#"1/()1./"01.3#9"1.1-(#.#&(1-"(57#G/.)/"1#&B"/' #/' (#T)(5"+(1-D#
09#8"&, (3#+(#3.#8.+)"+#L6HQ>K6HQ0N;#/' (#&0! ()1: (1/#(^T)": (1/(+
B"/' #90): , 3.5#90)#(C.-/"! ./"1&#/' (#1./"01.3#(-010: D7#_!)#/' (#1(^#/
/B0#+(-.+ (5;# 0B(!)#/' (#.1/"C-)"5"5#T)O&).: : (5#5' "9/(+#9)0: #: 01C
(/.)D#.1+#9"5-.3#-01/)03#/0#/' (#)(O)&.1"d./"01#09#T, F3"-#9"1.1-(5V#9)0: #
T)O&).: : (5#+(5"&1(+#/O#3,)(#90)"&1#"1!(5/: (1/#.1+#"1/()1./"01.3#-0: C
: ()-(#/0#/' (#)(+("1"/"01#09#/' (#)03(#09#/' (#5/./(#.1+#"1#/' (#(-010: "-#
5T') (V# .1+#9)0: #9"5-.3# , 5/()"/D#T)O&).: : (5#/O#)(&"01.3#.1+#(-010: "-#
+(! (30T: (1/#T03"-"(57#

06?# \$# E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#. 1+#8.)"01#b30D+#

E9#/' (#5/)./(&D#T."+#099;#' 0B(!());#/' (#+"!"+(1+5#B()(#5' 0)/C3"! (+7#
__TT05"/"01#T.)/"(5# B01#/' (")#9")5/#&0!()10)5' "T#"1#6HQH7#@' (1;#"1#
6HHI ;#90)#/' (#9")5/#/: (#5"1-(#/' (#8(^"- .1#S(!03,/"01;#10#T.)/D#' (3+#.#
: .h0)"/D#"1#/' (#30B()#-' .: F()#09#401&)(55#.1+#.1#0TT05"/"01#-.1+"+./(#
B.5#(3(-/(+##/' (#8.D0)#09#8(^"-0#4"/D70#@' (!"-/0)"(5#T.! (+##/' (#B.D#

060# \$E: .103#_)0)"Y:;#S0F()/0#S0+)k&, (dCPl : (df.1+#8.)"01#b30D+#

/' ./#"5#10/#.3B.D5#/' (#-.5(:#5#)0, &' 3D#6J#T()#-(1/#09#/0/.3#9, 1+"1&#
"5#+#5F,)5(+##/')0, &' #.#&)((: (1/5#LY10B1#.5#7+%@)%+.N#1(&0/'./(+##01#
.#-.5(CFDC-.5(#F.5'5#F/(B((1#/' (#5./.(5#.1+#/' (#9(+).3#&0! ()1: (1/#
L4 * *c#>J60V# g)0)3+#` .1Y#>J6>N7#@' (#' (!D#+(T(1+(1-(#09#30-.3#
&0! ()1: (1/5#01#9(+).3#9, 1+"1#8(^"-0#.350#5!) (5#.5#.#+"5"1-(1/'! (#
90)#5./.(5#/'0#"1-).(5(#30-.3#/'.#-033(-/'01;#B' 3(#: .Y"1-.3#099"-.#35#
3(55#.-0, 1/.F3(#/0#/' (")#-015"/, (1/5#Lg)0)3+#` .1Y#>J6>N7#

Z5#.#T.)/#09#/' (#+(- (1/).3"d./"01#T)0-(55;#/0/.3#9(+).3#9, 1+"1Z)#
30-.3#&0! ()1: (1/5#1(.).3D#+0, F3(+##F/(B((1#>JJ#.#1+#>J6>;#9)0: #1I?#
F"3"01#T(505#/0#670#/) "3"01#T(505#LZ, +"/0)k.#G, T(")0)#+#3.#2(+).-"1#
>J60N;#"1-).(5"1&#/' (#0! ().33#5T(1+"1&#-.T.-"/D#09#/' (#5, F1./"01.3#
&0! ()1: (1/5#E1#.#+"/"01;#"1#) (- (1/#D(.).5;#/' (#&0! ()1: (1/'# .5#-)(C
./(+##5T(-.3#9, 1+5#/'0#5/) (1&/' (1#+(! (30T: (1/#T)Oh(-/5#.1+#.#: "1"5/).C
/"! (#: .1.&: (1/#-.T.-"/D#./#/' (#)(&"01.3;#5/./(#.1+##: , 1"-T.3#3(! (357#
%0B(! ();#/' (#"1-).(5(#"1#9(+).3#9, 1+"1&#-0: (5#B'/' #5/)"1&5#./.-' (+7#
[1+()#/' (#1(B#5D5/(: #09#-./(&0)"-.3#0)#n(^).0)+"1.)D#9, 1+"1&#"1#
T3.-(#5"1-(#/' (#3./(#6HHJ5;#/' (#9(+).3#&0! ()1: (1/#+"5F,)5(5#1(.).3D#
' .3#909#/"5#9, 1+"1Z)#/' (#5/./.(5#"1#/' (#90): #09#-01+"/"01(+##9, 1+5#
Y10B1#.5#54+*#57-+%).7#@' (#9(+).3#&0! ()1: (1/#/).159()5#/' (#) (5/'#1#/' (#
90): #09#45*#<7-457-+%).;#B' "-' #5#/0#F(#, 5(+.#./#/' (#5/./.(5#+"5-)/"01#.1+#
B' "-' #+()!" (#9)0: #9(+).3#/'.#-033(-/'01#./#/' (#5/./.(#.#1+##: , 1"-T.3#
3(! (357#@' (#54+*#57-+%).#&0#/0B.)+5#5T(-"9-#-).(5;#5, -' #.5#(+, -./'01;#
' (.3/' ;#)0.+CF, "3+"1�#(1!")01: (1/.3#-015!)!./"01;#.1#.)1.&: (1/#
/' ./#3": "/5#/' (#+(&)((#09#./, /010: D#09#30-.3#&0! ()1: (1/5#E1#9.-/;#/' (#
5' .)(#09#-01+"/"01(+##9(+).3#9, 1+"1&#/'0#5/./(&0! ()1: (1/5#"1#8(^"-0#
"5#.: 01&#/' (#' "&' (5/'#1#/' (#B0)3+q.F0, /#RQ#T()#-(1/#-0: T.)(+##B'/' #
>=#T()#-(1/#"1#/' (# [1/'(+##G/./.(5#.1+#>7=#T()#-(1/#"1#S, 55".#L4 * *c#
>J60V# g)0)3+#` .1Y#>J6>N7#

@' (#8(^"-1#&0! ()1: (1/#5T(1/#.TT)0^": ./ (3D#=#T)0#-(1/#09#PUA#
01#(+, -./"01#"1#>J6R#LA(...#<("/0#>J6=N;#53'&' /3D#.F0! (#/' (#.!).&(#
09#9(30B#(: F)5#09#/' (#_)&.1"d./"01#90)#*-010: "-#40COT)./"01#
.1+#U(! (30T: (1/#L_*4U#>J6=N7#Z5#"5#/' (#-.5(#B'/' #0/')#5(-/0)5;#
/' (#9(+).3#&0! ()1: (1/#.-0, 1/5#90)#: 05#(+, -./"01#5T(1+"1&q IH7>#

0>J# \$

T)"! "3(&(+ #3"/(7#E1#6H=J;#8(^"-0# .+##, 5/#>0#% *E57#@' (5(#"1-3, +(+#/B0#
9(+().3#15"/, /"015q /' (#< ./"01.3#Z, /010: 0, 5#[1"! ()5"/D#09#8(^"-0#
L[<Z8N;##' (#: 0+()1#5, --(550)#09##' (#SOD.3#.1+#A01/"9"- .3#[1"! ()5"/D#
09#8(^"-0;#.1+#/' (#< ./"01.3#A03D/(-' 1"-#E15"/, /(#LEA<N7#E1#.++"/"01;#
/' ()(#B())(#6>#T, F3"-#5./.(C), 1#, 1"! ()5"/(5;#0#)(&"01.3#/'(-' 1030&"-.3#
"15"/, /(#.1+#?#T)! ./(#, 1"! ()5"/(57#@0/.3#(1)03: (1/#./#/' (#/' : (#B.5#
.TT)0^": ./(3D#=J;JJJ#5/, +(1/57

G./)"1&#"1#/' (#6H=J5;#/' (#&O!)()1: (1/#(: F.)Y(+ #01#/' (#9")5/#: .hO)#
(^T.15"01#09# " &' ()#(+, - ./"01#1#8(^"-0#B"/' #' (#-)(./"01#09#6J#1(B#
T, F3"-#5./.(#, 1"! ()5"/(5#/')O, &' O, /##/' (#+(-.+(#.1+#5(! (1#: 0)(#"1#/' (#
6H?J5;#.33#09#/' (: #30-./(+#"1#/' (#5./.(#-.T"/.357#@0#+(-1/).3"d(#/' (#
5D5/(: ;#/' (#&O!)()1: (1/#(^T.1+(+##/' (#1, : F)#09#)(&"01.3#/'(-' 1030&"C
-.3#"15"/, /(#;#. .1D#09#B' "-' #OT(1(+#"1#-"/(5#.1+#: , 1"-T.3"/(5#B"/' #
&)OB"1&#+(: .1+#9O)#"1+, 5/".3#.1+#.&)-, 3/, .)3#T)O+, -/"017#@'.1Y5#/#O#
.#: .hO)#"1! (5/: (1/#FD#/' (#9(+).3#&O!)()1: (1;#/' (#%*#5D5/(: #, 1+()C
B(1/#.#T)0"+#09#(^/).0)+1.)D#(^T.15"01#1#/' (#6HI J57# D#/' (#(1+#09#
/' (#+(-.+(;#/#0/.3#(1)03: (1/#' .+#)(-.' (+#QJJ;JJJ#5/, +(1/5q 6?#/' : (5#
/' (#1, : F)#09#5/, +(1/5#"1#6H=Jq.1+#1(/#(1)03: (1/#L.5#.#T)OT0)"01#
09#5/, +(1/5#F(/B((1#/' (#.&(5#09#6H#.1+#>ON#' .+#)(-.' (+#6J#T)#-(1/7#
20)#/' (#9")5/#/' : (#"1#8(^"- .1# "5/O)D;#%*E5#O, /5#+(#/' (#-.T"/.3(")17ET(1//)1+#(1)"(#)

0>># \$E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#.1+#8.)"01#b30D+#

@' (#+(- (1/).3"d./"01#09#/' (#(+, -./"01#5D5/(: #5/.)/"1&#"1#6HH6#
9,)/' ()#9, (33(+##/' (#(^T.15"01#09#/' (#T)"! ./(#5(-/0)#FD#"1-).(5"1&##/' (#
1, : F()#09#3"- (15"1&#(1/"(57#E1#. + +/"01#/O#T, F3"-#, 1"! ()5"/"5;#5/./(#
&0! ()1: (1/5#B() (#10B# (: T0B() (+#/O#"55, (#3"- (15(5#90)#.-. + (: "-#
T)O&): : (5#LY10B1#.5#SX_*5N#/O#T)"! ./(#, 1"! ()5"/" (57#E1#/' (#3./()#
T.)/#09#/' (#+(-.+(;#/' (#&0! ()1: (1/#09#*)1(5/0#z (+ "33O#L6HHRK>JJJN#
1(&0"/./(+ #. #1(B#3(&.3#9): (B0)Y#90)#/' (#SX_*#5D5/(: #B"/' #
' (#2(+)./"01#09# 8(^-.1#A)"! ./(#%"&' ()#*+, -./"01#E15"/, /"015#
L2E8A*GN;#B' "-' #5": T3"9" (+/' (#3"- (15"1&#T)0- (55#(! (1#9,)/' ()7#@' (#
) (5, 3/#B.5#. #5,)&(#"1#/' (#1, : F()#09#1(B#T)"! ./(#"15"/, /"015;#: .1D#09#
i , (5/"01.F3(#i , .3"/D7

8 (^"-0# \$# 0>0

(^T.15"01#' .5# -0: (#9)0: #T)OT)"(/.)D#L9O)CT)09"/N#"15"/, /"015;R#

0>R# \$#E: .103#_)0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#.1+#8.)"01#b30D+#

' .5# (5/.F3"5' (+#>0#1(B#"15"/, /"015# , 1+()#/' (# 1.: (#09#nT, F3"-#
1"! ()5"/" (5#B"/' #503"+.)"/D#5, TTo)/\#L [A*ZGN#. 1+#6>#n"1/()-, 3/,) .3#
, 1"! ()5"/" (5#\#L [E5N7#E1#FO/' #- .5(5;#/' (#, 1"! ()5"/" (5#/DT"- .33D#) (- ("! (#
' .39#09#/' (")#9, 1+"1)0: #' (#9(+().3#&0! ()1: (1/#. 1+#/' (#O/')# .39#
9)0: #' (#5./.(5;#1#-01/).5/#/O#/' (#9, 1+"1D5/(: 5#90)#/' (#).+"/'01.3#
5/./(#, 1"! ()5"/" (5;#1#B' "- ' #/' (#9(+().3C5/./(#)./'0#! .)"(5#-015"+()).F3D#
L8(1+0d.#>J6=.N7#

R7# R8)/&)%<^52-E5<+%/ +0/ 4\$12-7/ .<5<)/ \$%-@)* .-<.).7# @0# (^T. 1+# ' "&' ()#
(+, -./"01#-0! () .&(#"1#5: .33()#-"/" (5#. 1+#: , 1"-T.3"/" (5;#/' (#5/./(#
, 1"! ()5"/" (5#-)./(+##1 (B#-.: T, 5(5#. 1+#-(1/)(5#1#/' (#"1/()#09#/' (#
)5T(-/"! (#5/./(/#G ' "3(#(^.: T3(5#! .)D#5"&1"9"- .1/3D;#/' (#1 (B#9. -"3"/" (5#
OT(1(+#0, /5"+(#/' (#5/./(#-. T"/.35#. 1+#"1#.) (.5#B"/' #3.)&(#+(: .1+#90)#
) (/).)D#5/, +"(5#"1#: 05/#-.5(57#@' ./#/)(1+#' .5#.--(3)./(+#"1#) (- (1/#
D(.5;#B"/' #5/./(#, 1"! ()5"/" (5#OT(1"1&#R=#1 (B#-.: T, 5(5#0)#(^/(15"01#
-(1/)(5#F(/B((1#>JJ1#. 1+#>J6>#L8(1+0d.#>J6>N7#

=7#

8(^"-0# \$# 0>=

n(^/).0)+"1.)D\#9, 1+5# -0! ()#"19).5/), -/,)(# (^T.15"01#L"1-3, +"1&#
/' (# -015/), -/"01#09#1(B# -. : T, 5(5N# .5# B(33# .5# -05/5#"1-,))(+##FD#
"1-)(.5"1/, +(1/# (1)03: (1/;#5-"(1/"9"-# T)0&).: : (5# .1+# 0/' ()#



0>Q# \$# E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#. 1+#8.)"01#b30D+#

)5/#/(1+#/0#F(#09#: (+"0-)(#0)#30B#i , 3"/D#. 1+#-01+, -/#!"/, .33D#10#
)5(.)-' 7#@' (#T, F3"-#, 1"! ()5"/" (5;#"1#/ ,)1;#.)<#+!" +(+#"1/0#9"! (#F)O. +
&)0, T5q 9(+). 3#, 1"! ()5"/" (5;#5/ ./ (#, 1"! ()5"/" (5;# [A*ZG;# [E5#B' "-' #.) (#
09/(1#&)0, T(+#/0&(/')#B'/' #' (# [A*ZG#90)#. +: "1"5"/.!" (#). 5015N#. 1+#
/(-' 1030&"- .3#. 1+#T03D/(-' 1"-#, 1"! ()5"/" (57#` 0/' #. +: "55"015#5/. 1+.)+5#
. 1+#/' (#T)09"3(#09#5/, +(1/5#!.)D#5"&1"9"- .1/3D# .: 01&#/' (#"15"/, /"015;#
B'/' #' (#9(+). 3#, 1"! ()5"/" (5#. 1+#. #' . 1+9, 3#09#5/./ (#, 1"! ()5"/" (5#. .: 01&#
/' (#: 05/#-0: T(/"!" (7#

@' ()(.)(#1"1(#9(+). 3#"15"/, /"015#09#' "&' ()(+, -. /"01;#09#B' "-' #
90,);# 33#30- ./ (+#"1#8(^"-0#4"/D;# --0, 1/#90)#6>#T()#-(1/#09#/0/ .3#/)"/.)D#
(1)03: (1/#. 1+#(: T30D#60#T()#-(1/#09#, 1"! ()5"/D#T)09(550)57#@' (D#.)(#
/' (# [<Z8;#/' (#Z, /010: 0, 5#8 (/)0T03"/. 1# [1"! ()5"/D#L [Z8N;#EA<#
. 1+#/' (#<./"01. 3#A(+. &0&"- .3# [1"! ()5"/D#L [A<N7#@' (#9)5/#/')(.)(#/' (#
: 05/#-0: T(/"!" (#%*E5#"1#8(^"-07#@' (# [<Z8;#90)#"15/. 1-(;# --(T/5#
)0, &' 3D#H#T()#-(1/#09#)(&, 3.)# TT3"- . 1/5#L__3"! .) (5#>J6=N;# 3/' 0, &' #5/, C
+(1/5#/' ./# ./ (1+##/5#" '&' #5-' 003#5D5/(; #.)(#&, .). 1/((+.#. +: "55"01#B'/' #
. #: "1": , ; #&). +(#T0"1/#. ! () .&(7#@' (#(^.-/#-, /C099#!.)" (5;#+(T(1+"1#&
01#+(. .1+#90)#/' (#T)0&#). : (#09#5/, +D7#8(+="-1(;#(1&"1() "1&#. 1+#
.)-' "/(-/,)(#.)(#/' (#: 05/#-0: T(/"!" (7#@' (#0/' ()#9"! (#9(+). 3#09#). 7-' "/'&' (@' (# [

00J# \$#E: .103#_)0"Y.:#S0F()/0#S0+)k&, (dCPl : (d# .1+#8.)"01#b30D+#

J7I #T()#-(1/#09#(1)03: (1/"1#6HHJ#L4.)10D#(/#.37#>JJ>N#.1+#67=#T()#-(1/#
09# .33#/)/" .)DC3(! (3#5/, +(1/5#"1#>J6R#L [1"! ()5".#>J6R#N#@' (#9")5# [E#
OT(1(+#"1#>JJ>#"1#10)!' ()1#G"1.30.#5/./(:#.1+#5"1-(#/' (1;#.10"/) #66#
"15"/, /"015#' .! (#OT(1(+#"1#+99)(1/5"/.(57#@' (")-,))"- , 3, : #/.&(5#
30-.3#+(! (30T: (1/1((+5#.1+#/' (#T)(5()! ./"01#09#1+"&(10, 5#3.1&, &(57#
@0&(/');#/' (5(#15"/, /"015#.-0, 1/(+#0)#, 5/#J70#T()#-(1/#09#(1)03: (1/#
"1#>J6R#L *^^* 4 [8#>J6?N7

@' (#/(-' 1"- .3#, 1"! ()5"/" (5;# B" "-' #.) (#+!" +(+#"1/0# /(-' 1030&"-.3#
, 1"! ()5"/" (5#.1+# T03D/(-' 1"-# , 1"! ()5"/" (5;# (1)033(+R7=#T()#-(1/#.1+#
67R#T()#-(1/#09#5/, +(1/5;#) (5T(-!" (3D;#"1#>J6R#L *^^* 4 [8#>J6?N7#
Z--0)+"1&#/0#/' (#B(F#5"/(#09#/' (# [1+)5(-) (/.) ./#90)#%&' ()#*+, -. /"01#
LG*GN#09#/' (#G*A;#/' ()(#.) (#-,))(1/3D#?6# /(-' 1030&"-.3#, 1"! ()5"/" (5#.1+#
RQ#T03D/(-' 1"-# , 1"! ()5"/" (5#"1#>J6=#LG*AN;#.3/' 0, &' #013D#0J#)(T0)/(+#
(1)03: (1/#5/. /"5"-5#/0#/' (#G*A#"1#>J60#L *^^* 4 [8#>J6?N7#E1#.++/'01;#
' ()(#.) (#>RH# /(-' 1030&"-.3#"15"/, / (5;#.-0, 1/"1Z)#6>7=#T()#-(1/#09#
(1)03: (1/57#20): ()#A(5+(1/#b†d.)0#4†)+(1.5#L6H0?K6HR>N#-)./(+##' (#
9")5# /(-' 1030&"-.3#"15"/, / (5#.5#T.)/#09#.1#"1+, 5/)" .3'd. /"01#5/). /(&D#"1#/' (#
(.)3D#6HRJ5;#.1+##' (#5(-/0)# .5#, 1+()&01(#.#: .h0)#(5), &(1-(#"1#/' (#T.5#/
/BO#+(-.+(57#@0&(/');#/' (#') ((#/#DT(5#09# /(-' 1"- .3#"15"/, /"015;#B" "-' #
/(1+#/0#-. /()#0#3(55#.993, (1/#5/, +(1/5#"1#5(-)' #09#OF#5(-,)/D;#.-0, 1/(+#
90)#.#-0: F"1(+617=#T()#-(1/#09#(1)03: (1/5#L *^^* 4 [8#>J6?N7#

2"1.33D;#/' ()(#B() (#6>I;JJJ#5/, +(1/5# (1)033(+#"1#: 0)(#/' .1#R=J#
/(-')5#-033(&(5#"1#>J60;#.-0, 1/"1Z)#071#T()#-(1/#09# /()#)D#(1)03C

.1+#0/' ()/(-' 1"- .3#+ (&)((57#@' (#F)(.Y+0B1#B.5# .5#90330B5#>R#/'(-' C
1030&"-.3#, 1"! ()5"/(5:#>6# T03D/(-' 1"-#, 1"! ()5"/(5:#>Q#/'(-' 1030&"-.3#
"15"/, / (5:#6R# [A* ZG#. 1+#1# [E5#L8 (1+0d.#>J6=FN7#@' "5#T()0+#B.5#
T.)"/-.3.)3D#10/(BO)!' D#90)##' (#-)(./"01#09#/B0#1 (B#5, F5D5/(: 5:#/' (#
T03D/(-' 1"-#, 1"! ()5"/(5#. 1+##/' (# [E5#B' "-' #90): (+#T.)/#09#.#&0! ()1C
: (1/#5)./(&D#/0#+(: 0-)./'d(#. 1+##+(- (1/).3"d#/' (#5D5/(: #.5#B(33#.5#/0#
(^T. 1+##/'(5#F/(B((1#%*E5#. 1+#30-. 3#"1+, 5/)"(57#E1#. .++"/"01#/' (#5/./(#
, 1"! ()5"/(5:#. "+(+ #FD#9(+ () .3#5, T70)/;#-)./(+#60#1 (B#-. : T, 5(5#0, /5'+(#
' (#5/./(#-. T)'.357#

[1+()#20^5#5, --(550);#2(3^T(#4. 3+()I 1#L>JJ?K>J6>N;#/' (#&0! C
)1: (1/#-01"/1, (+#/' (#(^T. 15"01#09#/' (#T, F3"-# '&' ()#(+, -./"01#
5D5/(: #B'/' #.1#(! (1#&)./()#(: T' .5"5#01#/'(-' 1030&"-.3#+ (&)((57#@' (#
G*A#)(TO)/(+##' (#-)(./"01#09#6RJ#1 (B#"15"/, /"015q R0#/'(-' 1030&"-.3#
, 1"! ()5"/(5:#0R#T03D/(-' 1"-#, 1"! ()5"/(5:#>0#5/. /(#/'(-' 1030&"-.3#"15"/C
, / (5:#>>#9(+).3#/'(-' 1030&"-.3#"15"/, / (5:#60#T, F3"-#5/. /(#, 1"! ()5"/(5#
L5/. /(:#9(+).3#. 1+##"1/(-, 3/,).3N#. 1+##=#)(&"01. 3#-(1/)(5#90)##/'(-')
) . "1"1&#L8 (1+0d.#>J6=FN7#_9#/' (#/0/.3:#6JJ#B()#/'(-' 1030&"-.3#
"15"/, /"015#:#. #90-, 5#B' 05(#:# T3"-./"015#B(#B"33#+#5-, 55#3./()#01#"1#
'/"5#-' .T/()

@' (#-,))(1/#. +: "1"5)./"01#09#*1)"i, (#A(... #<"(0#L>J6>KN# .5#5/(#
(! (1#:# 0)(#.: F"/"0, 5#&0.35#90)#' "&' ()#(+, -./"01#(^T. 15"01#/' .1#"/5#
T)(+(- (550)57#%#5#G(-/0).3#A)0&). : #90)#*+, -./"01#L>J60K>J60Q#-. 335#
90)#&)055#/()".)D#(1)03: (1/#/0#)(.-' #RJ#T()#-(1/;# , T#9)0: #' (#-,))(1/#
06R#T()#-(1/#LG*A#>J6RN# [13"Y(# 1/(# (1)03: (1/;#&)055#(1)03: (1/;#
B' "-' "#5#-0: T, /(+ #FD#+ "1" + "1&#/' (#/0/.3# 1, : F()#09#5/, +(1/5#09# .1D#
&(#FD#/' (#5' .)#09#/' (#TOT, 3./"01#. &(+ #6HK>0;#"1-0)TO)./(5#0!).&(#
5/, +(1/5q .#5"d.F3(#TO)"/"01#09#/' (#/)".)D#TOT, 3./"01#"18(^-0#. 1+##"1#
0/')#+(! (30T"1&#-0, 1/)"(57#GO#9.)#/' (#&0!)1: (1/#' .5#:(/#"/5#. 11, .3#
&0.357#%0B(!):#. :h0)#9(+).3#F, +&(/#-, /F.-Y5#90)#>J6?;#+, (#/0#T3, : C
: (/ "1&#BO)3+#0#3#T)"- (5:#. :D#B(33# .! (#3: "/(+##' (#&0!)1: (1/\5#.F"3"/D#
/0#-01"/1, (#/0#"1! (5#"1#/' (#5(-/0)#90)##' (#5' 0)/#/) : 7

U(5T"/(#)(- (1/#&."15#"1#-0!).&(:#8(^-0#)(: ."15#9.)#F(' "1+#: .1D#
b./"1#Z:)"- .1#-0, 1/)"(5#"1# '&' ()#(+, -./"01#(1)03: (1/7#Z)&(1"/1. ;#
' (#)(&"01.3#3(. +)#)(TO)/5#&)055#(1)03: (1/#09#QJ#T()#-(1/#L>J6>#9#&C

00># \$# E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#. 1+#8.)"01#b30D+#

8(^"- .1# ' "&' ()# (+, -./"01#5D5/(: # "5# ' "&' 3D#"1(i , "/. F3(#. 1+#5/). /"9" (+#
.301&#-3.55#. 1+#)(&"01. 3#3"1 (57#

E1#F)0. +#/(): 5;#/' (#9(+(). 3"d. /"01#09# " "&' ()#(+, -./"01#0-- ,)5#. -)055#/B0#
+": (15"015q /' (#+(! 03, /"01#09#. -.+(: " -;#9"1. 1-" .3#. 1+#. +: "1"5/). /"! (#
-01/)03#. 1+#&(0&). T' "-#+ (- (1/). 3"d. /"01;#B' "- ' #)(9()5#/0#/' (#+"5)"F, /"01#

E1#/' (# - .5(#09#/' (#T, F3"-#/(.-')5# -033(&(5# .1+#/' (#/(-' 1030&"C
- .3#5(-/0);#9(+).3"d./"01#' .5# T): .)"3D# /).153./(+#"1/O# .+: "1"5/)./'! (#
+(- (1/).3"d./"01;#B"/' #' (#G* A#5/"33#+- /."1&#: , -' #09#/' (#-,))"- , 3.#. 1+#
9"1. 1-.3#T03"- (5#9)0: #' (#- .T"/.37#%0B(! ();#/' ()(#.#)(#(^-(T/"0157#@' (#
)(- (1/#(^T. 15"01#09#/' (#/(-' 1030&"-.3#"15"/, /"015#./#/' (#5/./(#3(! (3# .5#
B(33# .5#/' (#+"!)5"9-./"01#09#/' (#5(-/0)#B"/' #' (#-)(./"01#09#/' (#T03DC
/(-' 1"-# , 1"!)5"/" (5# .5#) (5, 3/(+#"1#&)(./()#9)((+0: #90)#"15"/, /"015#/0#
+(5"&1#/' (")#OB1#-,))"- , 3.7#2,)/' (): 0)(;#"1#>J66;#/' (#G* A# ., /' 0)"d(+
/' (#/(-' 1030&"-.3# , 1"!)5"/" (5#/0#099)#RCD(.)#(1&"1() "1&#+ (&)((5;#"1#
.++/"01#/O#>CD.)#/(-' 1"- .3#+ (&)((5q .#301&C/' : (#+(: .1+#09#5/, +(1/5#
./#/' 05(#"15"/, /"0157#

Z10/' ()#(^.: T3(#"1#B' "-' #9(+).3"d./"01#' .5# .+#: ""^(+)(5, 3/5#"5#
/' ./#09#/' (# [E57# __! () .33;#/' (5(#"15"/, /"015#)(-("!(#FD#9.)#/' (#3.)&(5/#
T)C5/, +(1/#5' .)(#09#9, 1+"1	# .1D# T, F3"-# , 1"!)5"/" (5#"1# 8(^"-07#
@' (#: 05/#B(33C9, 1+(+09#/' (5(:#/' (#E1/()- , 3/,).3#[1"!)5"/D#09#A, (F3.#
G/./(:#)(-("!(+#=J# : "33"01#T(505#"1#&O! ()1: (1/#9, 1+"1&#"1#>J60# .1+#
(1)033(+##, 5/#>6R#5/, +(1/5q /' (#(i , "! .3(1/#09#e>0R;JJJ#T(505#T)O#5/, C
+(1/#L [Ge6>;IJJ#./#>J6?#(^-' .1&(#)./(5N7#E1#T).-/'-(;# OB(! ();#/' (5#
, 1"!)5"/" (5#(1hOD#!)D#3"/3(#"15"/, /"01.3# ., /O10: D#9)0: #('/')#3(! (3#
09#&O! ()1: (1/7#@' (#G* A#5#)(5TO15"F3(#9O)#.TT)O!"1&#/' (")#5/, +D#T3. 15;#

00R# \$#E: .103#_) +0)"Y.;#S0F()/O#S0+)k&, (d#P1 : (d#.1+#8.)"01#b30D+#

5/./, 5#.1+#F(.)#/' (#B0)+#n., /O10: 0, 5#1#/' (")#1.: (5q' .!(#!"/, .33D#
/O/.3#-01/O3#O! ()#/' (#+(5"&1#09#/' (")#.-.+(: "-#T)O&).: : (5#.1+#"1#
/' (#, 5(#09#/' (")#F, +&(/57#G": "3.)3D;#FD#3.B;#T)09(550)5#.1+#)(5(.)-' ()5#
(: T30D(+#"1#/' O5(#"15"/, /"O15#(1hOD#5"1"9"- .1/#.-.+(: "-#9)((+O: #"1#
/(): 5#09#/' (#-01/(1/#09#/' (")#/(.-' "1&#.1+#)(5(.)-' 7#Z#6HQJ#: (1+: (1/#
/O#/' (#4015"/, /"O1#0, /3"1(5#/' O5(#)"&' /5a

[1"! ()5"/" (5#.1+#0/' ()# '&' ()# (+, -./"O1#"15"/, /"O15#/' ./#.)(#3(&.33D#
&).1/(+#., /O10: D#B"33#'.! (#/' (#TOB()#.1+#)(5TO15"F"3"/D#/O#&O! ()1C
: (1/#/' (: 5(3! (5V#/O#9, 39"33#/' (")#(+, -./"O1.3#&O.35;/O#)(5(.)-' #.1+#+"5C
5(: "1./(#-, 3/,)(#, 1+O)#/' (#T)"1-T3(#09#.-.+(: "-#9)((+O: ;#B"/' #/' (#
9)((#.1+#OT(1#+(F./(#09#"+(.5V#/O#+(/(): "1(#/' (")#T3.15#.1+#T)O&).: 5V#
/O#+(/(): "1(#/' (")#OB1#TO3"-("5#&O! ()1"1&#.9.-, 3/D#"")"1&#.1+#)(/ (1/"O1V#

.++/"01;#5"&1"9"- .1/#93, -/, ./"015#"1#/' (#.: 0, 1/#09#9(+).3C#.1+#5/./ (C
(^/).0)+^1.)D#9, 1+5# ' ! (#.1#": T.-/#01#, 1"! ()5"/"(5#T3.11"1&#-.T.-"/D7#

@' (#1(B#T03"-"(5#90): #T.)/#09#/' (#).9/#09#-' .1&(5#"1#' '&' ())(+, C
-./"01#T03"-"(5#": T3(: (1/(+#01#. #&30F.3#5-.3(#5/.)/"1&#"1#/' (#6HQJ57#
@' (#5/), -/,).3#. +h, 5/: (1/#: (.5,)5;#. 1+#/' (#50C-.33(+ # 1(O3"F()).3'#
T03"-"(5#/' ./# .--0: T.1"(+##/' (#&30F.3#d./"01#/) (1+5#/OB.)+5#/' (#(1+#
09#/' (#-(1/,)D;#'. +.#. #. h0)#"193, (1-(#01#T, F3#-#, 1"! ()5"/"(5#"1#b./"1#
Z: ()"- .7#%"&' ()#(+, -./"01#T03"-"(5#. +OT/(+##,)"1&#/' (#T)"0+##"1-3, +(+#
/' (#: .55"! (#)(+, -/"01#09#T, F3#-#9"1.1-"1&#. 1+##/' (#(5/.F3"5': (1/#09#
. --0, 1/.F3"/D#: (.5,)(5V#"15"//, /"01.3#++"! ()5"9"-./"01#. 1+##+(- (1/).3#d.C
/"01#.#1(B#(: T'.5"5#01#n(^-(33(1-(\V#/' (#(!.3, ./"01#. 1+##. +OT/"01#09#
1(B#: .)Y(/CF.5(+ #-0: T(/"!" (#: 0+(35#.5#B(33#.5#/' (#T)"! ./"d./"01#. 1+##
-0: : ()-".3#d./"01#09#/' (#(+, -./"01.3#T)0!" +()5V#. 1+##.#1(B#(: T'.5"5#
01#n, 1"! ()5"/D#T)0+, -/"01#\L8(1+0d.#>JJ>N7#@O&('/):#/' (5(#T03"-"(5#
0T(1(+ #.#1(B#().#"1#/' (#)(3./"015' "T#F(/B((1#/' (#, 1"! ()5"/"(5#. 1+##
/' (#5/./(#LS0+)k&, (d#>JJ>N;#-').-/()"d(+ #FD#. 1#"1/(15(#. 1+##&)0B"1&#

00?# \$# E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#. 1+#8.)"01#b30D+#

9"1.1-".3#-)"5"5#.1+#/O#T)O: O/(#-O: T(/"01#.: O1&#/OT#5-' 03.)57#@' (#
5D5/(: #T)O!"+(5#9"1.1-".3#1-(1/"! (5#90)#. -.+(: "-5#B"/' #.#+(: O15/)./(+#
-.T.-"/D#90)#5-(1/"9"-#)(5(.)-' ;#: (.5,)(+#"1#/(): 5#09#/' (#1, : F())#09#
.)/"-3(5#T, F3"5' (+#"1#"1/()1./"01.3#T(())(!"(B(+##0,)1.35;#T./(1/5#T)OC

"1#/(): 5#09#9, 1+"1&#. 1+#-0! ().&(;#', &(#+"5T.)"/"(5#)(: ."1;#T.)"/"- , 3.)3D#
F(/B((1#/' (#)"-' ()#. 1+#T00)()#5/. / (5#. 1+#F(/B((1# ,)F. 1#. 1+#), ,) . 3#
) (. 57#X.)"/."015#"1#" '&' ()#(+, -./"01#(1)03: (1#/(1+#/O#: ")0)"1-0: (#
+"5T.)"/"(5#.: 01/. / (57#20)#(^.: T3(;#4' ". T. 5#). 1Y5#./#/' (#FO//O: #09#
8(^"-0\5#00#5/. / (5;#FO/' #"1#/(): 5#09#/' (#5' .) (#09#/' (#TOT, 3./"01#3#"1&#
"1#TO! ()/D#LI?MN#. 1+#"/5#). 1Y"1#/' (#-0, 1)D\5#' , ; . 1#+(! (30TC
: (1/"1+ (^q ./#J7??! ;#"/#"5#./#T.)#B"/' #/' (#Z9)"- . 1#1./"01#09#P.F01#
L4 *G_A#>J60\#A< [U#>J6=N7#E/#. 350#' . 5#/' (;#/' <00(#/' (;#/' <00TJET/(#5TJETO##' F

000#

5"&1"9"- .1/3D#1#/' (#1(.#9, /,)(:#&"!(1#/' (#5' 0)/.&(#O9# ' "&' #5-' 0035#"1#
: .1D#: , 1"-T.3"/"(5#L_) +0)"Y.#.1+#S0+)k&, (d#>J6>N7#

@' (#+")(-/ #3"1Y#F(/B((1#T0!)/D#.1+#(+, -./"01.3#./."1: (1/#5/.)/5#./#
/' (#F.5"-#(+, -./"01#3(! (37#E1#4' ".T.5;#6R#T)#-(1/#09#/' (#TOT, 3./"01#. &(+ #
6=#.1+#.FO! (#B.5#33"/()../(#"1#>J6=#.1+#=6#T)#-(1/' .+#10/#-0: T3(/(+ #
1"1/' #&).+(q /' (#: .1+./O)D#: "1": , : #(+, -./"01#3(! (3#T)"0)#/O#>J667#
E1#-01/).5/;#33"/().-D#"1#8(^"-0#4"/D#B.5#67R#T)#-(1/#.1+#1"1/' #&).+(#
-0: T3(/"01#B.5#.3: 05/#QJ#T)#-(1/#LG*A#>J6=N7

ORJ#

OR># \$E: .103#_)0)"Y.:#S0F(0#S0+)k&, (dCPl : (d# .1+#8.)"01#b30D+#

-01&)(55#.5#B(33#.5#/' (#T.)/'- , 3.)#: 0: (1/'"1#/" : (#"1#B' "- #'/' (#"15"/, C
/'"015#9")5/#1 (&O/'./(+#/' (")#9, 1+"1/), -/,)(#_1-(#5(/;#/' (5(#.&))((C
: (1/5#' .! (#T)0! (+#+"99"-, 3/#0#: 0+"9D;#+(5T"//#.#5(")5#09#5' 0)/C/(): #
: (.5,)(5#01#/' (#T.)/#09#/' (#9(+).3#&0!)1: (1/#+(5'&1(+/#0#: "1": "d(#
/' (#"1(i , .3"/"(57#

20)#(^.: T3(;#B' "3(#50: (# , 1"!)5"/"(5;#5, -' # .5#/' (#Z, /010: 0, 5#
[1"!)5"/D#09#P, ())O# .1+#/' (#Z, /010: 0, 5#^(1"/O#j, .)(d#[1"!)5"/D#
09#_.^.-.;#+(T(1+#.3: 05/#(1"/)(3D#01#9(+).3#9, 1+"1Z)#/' (")#F, +&C
(/5;#0/')5;#5, -' # .5#/' (# [1"!)5"/D#09#P, .+.3.h.).#)(-(! (#.#: .h0)"D#
9)0: #'/' (")#(5T(-/'!(#5/./(5#L*^^^4 [8#>J6?N7#<(!)/' (3(55;#.#: .h0)"D#
)(-(! (#.#&)(./()#5' .)(#09#9(+).3#9, 1+"1&#/' .1#5/./(#9, 1+5;#.#)3'.1-(#'/'#
)93(-/5#/' (#"15"/, /"015#9"1.1-" .3#+(T(1+(1-(#01#/' (#9(+).3#&0!)1: (1/#
L8(1+0d.#>J66N7#E1#&(1).3;#/' (# , 1"!)5"/"(5#*1#T00)()#5/./(5#) (3D#: 0)(#
' (!"3D#01#9(+).3#5, F5"+(5;#.#3/' 0, &' #'/' ()(#.)(#50: (#(^-(T/'015;#5, -' #
.5#/' (#Z, /010: 0, 5#[1"!)5"/D#09#<, (!O#b(01;#B' "-' #)(-(! (5#/')((#
/' : (5#: 0)(#9)0: #'/' (#9(+).3#&0!)1: (1/#/' .1#9)0: #'/' (#5/./(#L*^^^4 [8#
>J6?N;#+(5T"/(#<, (!O#b(01\5#)03(#.5#/' (#-0, 1/)D\5#: ."1#*1+, 5/)" .3#', F7#

@' ()(#.)(#.350#-015"+).F3(#"1(i , .3"/"(5#"1#/' (#5' .)(#09#9, 1+"1&#T()#
5/, +(1/7#E1#>JJI ;#' "5#9"&,) (#! .)"(+#: 0)(#/' .1#/')((9O3+;#+(T(1+"1#
/' (#"15"/, /"01;#9)0: #>0;6QI#T(505#L[Ge>;JIJ#.#>JJI#(^-' .1&(#)./(5N#

)5, 3/(+#"1#5"&1"9"- .1/#9, 1+"1&#"1-)(.5(5#./#.#: .h0)"/D#09#/' (#/.)&/(+
"15"/, /"0157#%0B(!) ;#5/.)/"1&#"1#>JJH;#/' (#5' .)(#09#/O/ .3#-01/"1&(1/#
(^/).0)+"1.)D#9, 1+5#'.5#5/(.+ "3D#+(-)(.5(+7#E1#>J60;#9(+).3#(^/).0)+"C
1.)D#9, 1+5#)(T)(5(1/(+#6I#T()#-(1/#09#9(+).3#0)+"1.)D#9, 1+"1&#/O#/' (#
OR#5/./(#, 1"!)5"/(57#

G, -' #93;'-/, ./"015#'.! (#: .h0)#": T3"-./"015#90)#/' (#-.T.-"/D#09#5/./(#
, 1"!)5"/(5#/#O#T3.1#/' (")#F, +&(5# .1+#"1! (5/"1#301&C/O): #(^T.15"017#
G": "3.)3D;#B' "3(#T.)/#09#/' (#9, 1+5#.)(#(.): .)Y(+90)#"1-)(.5"1/, +(1/#
(1)03: (1/#.1+#/' (#-015/), -/"01#09#1(B#9.-"3"/(5;#/')(#'.5#F((1#10#
-0))(5T01+"1&#"1-)(.5(#"1#0)+"1.)D#9, 1+"1Z)#/' (#1(B#-.: T, 5(5#0)#
-(1/)(5#L8(1+0d.#>J6=.N7#2"1.33D;#/' (#, 1"!)5"/(5# .F"3"/D#/O#5(-,)(#
(^/).0)+"1.)D#9, 1+"1&#!.)"(5;#.5#+0(5#/' (#+(&)((#0#B' "-' #"15"/, /"015#
+(T(1+#01#/' (5(#)(50,)-(57#20)#(^.: T3(;#"1#>J60;#(^/).0)+"1.)D#9, 1+5#
)#(T)(5(1/(+#16#T()#-(1/#09#/' (#0)+"1.)D#F, +&(/#09#/' (# [1"!)5"/D#09#
2, "1/.1.#S00;#(i, "! .3(1/#/O#R6#T()#-(1/#09#/' (#/O/.3#"15"/, /"01.3#
F, +&(7#E1-4(1)2j3-2(/)()-4(/)-4(7)(/)-.57"9-, .57, 76((&)-22d)"77.5730/+14(7-4(

ORR# \$#

09#., /' 0)"/.). 1#-(1/).3"5: #0)#/' (#)(-(1/).3"d./"01#09#Y(D#5(-/0)5#. 1+#
5/), -/,)57# @' (#-01/).+ "-/0)D#+D1.: "-5# F(/B((1#9(+).3"d./"01#. 1+#
+(-(1/).3"d./"01;#01#/' (#01(#' . 1+;#. 1+#-(1/).3"d./"01#. 1+#-01/03;#01#
/' (#0/' 0);#.)(#.#-015(i, (1-(#09#. 1+#5'. T(#/' (#: 0+()1"d./"01#09#/' (#
. , /' 0)"/.). 1#)(&": (;#.5#B(33#.5#-01/(: T0).)D#: 0+(35#90)#.--, : , 3.C

ORQ# \$E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d#.1+#8.)"01#b30D+#

/()/".)D#(+, -./"01#"15"/, /"015;#B' "-' #!.)D#&)(./3D#"1#/(): 5#09#)(50,)-(5#
.1+#/' (#i, .3"/D#09#/(.-')5#.1+#T)0&).: : (57

S(-(1/#&O!)()1: (1/#9"1.1-"1&#T03"-("5#.350#)!(.3#1, :)0, 5#-01C
/).+ -/"015#.1+#3": "/./"015#"1#/' (#9(+().3"d./"01#T)0-(557#@0/.3#T, F3"-#
(^T(1+"/,)(#01#' "&')#(+, -./"01#"1-)(.5(+#!J#T()#-(1/#"1#)(.3#/(): 5#
9)0: #>JJJ#0#>J6?;#B' "3(#5./C3(! (3#T.)/"-"T./"01#' .5#)(: . "1(+##)(3.C
/"! (3D#-015/.1/#.#.)0, 1+#0J#T()#-(1/#09#/' (#/0/.37#2(+).3#.1+#5./C#5, FC
5+"(5#.)(#5/"33#, 1(! (13D#+5/)F, /(+##(O&).T' "-.33D#.1+#FD#"15"/, /"01.3#

8.h0)#-' .33(1&(5# .350#T()5"5/#"1#/(): 5#09#(i , "/D:#FO/' #"1#0! () .33# .-- (55# /O#' "&')#(+, -./"O1# .1+#"1#/' (#/DT(5#09#(+, -./"O1 .3#099)"1&5#./#/' (#5/./(# .1+#: , 1"-T.3#3(! (35:#T.)/"-, 3.)3D#"1#/' (#T00)(#)(&"O157#<O1 (' (3(55;# 9"1.1-"1&#"5#013D#01(#T"(-(#09#/' (#9(+).3"d./"O1#T)O-(55;#/' (#5, --(55#09# B'"-' #+(T(1+5#h, 5/#.5#: , -' #01# .+: "1"5)/./"!(#-.T.-"/D#.1+#T03"/- .3# B"337#E1#+(! (30T"1&#-0, 1)"(5#5, -' #.5# 8(^"-0;#B'"-' #.)(#5/"33#"1#/' (# T)O-(55#09#+(: O-)./"-#.1+#"15"/, /"O1.3#-01503"+./"O1;#5, -' # (3(: (1/5# .)(#"1#5' O)/#5, TT3D7

Z-05/. #G"3! .:#Z7#>JJH7#F"w%7-4) ./_I\$*y"5-5./J/3*)%<).a/=2/3+1-)*%+/&)/25./\$%-@)*.-&5&)/ 4r12-75./)%/Hu>-7+7#8m^"-0#4"/Da#Z < [E*G7
Z1+).+(#Uk.d:#P7#*7#>J667#mb.#(+, -.-"I 1#5, T)"0)#TfF3"-.#.#+"5/.1-".#(1#8m^"-07# G, 5#T)"1-"T.3(5#+(5.9kO5#D#.3/()1./"! .5#(1#(3#5"&30#uuE7#G))%7\$)%<+##?>a#>JK>H7# Z50-.-"I 1# < .-"O1.3#+(# [1"! ()5)+.(5# (#E15"/, -"O1(5#+(#*+, -.-"I 1#G, T)"0)# LZ < [E*GN7#>J6R7#; %\$5^+/- .5&w.<7+/TUVeFTUV[7Z! ."3.F3(#./# //TaMWB7.1, "(57 : ^W""190): .-"O1CDC5()!"-"O5W"190): .-"O1C(5/.+"5/"-.C+(C(+, -.-"O1C5, T)"0)W .1, .)"OC(5/.+"5/"-OC+(C(+, -.-"O1C5, T)"0)
Z)(33.10#S.: 05;# *7#>J6>7#n*!.3, .-"I 1#+(3#201+0#+(#ZT0)/.-"O1(5#T.).#3.# *+, -.-"I 1# `t5"-.\L2Z*`N7#

0=J# \$# E: .103#_)0)"Y.;#S0F()/0#S0+)k&, (dCPl : (d# .1+#8.)"01#b30D+#

O)&7: ^W5"/(WT03"/"- .5CT, F3"- .5WT)OT, (5/.5CT03"/"- .5CT, F3"- .5W
: (^-OC>J60C' .-.C)(90): .C9(+).3'5: OC9'5- 3
4(1/)0#+(#*5/, +05#GO-.3(5#D#+(#_T"1"1 1#AfF3"-.#L4*G__AN7#>J607#H)&-7-y%/
&)/25/4+!)E5/4+*)%<&5&/0&)*5<@5/ TUVT7#Z! ."3.F3(#.#' //TaWw-(50T7F30&5T0/7
: ^W>J60WJQW: (+-"01C+(C3.CTOF)(d.CTO)C(1/"+. +7' /: 3
4__<*XZbCE<*PE7#>J6J;#>J6>#. 1+#>J6R7#=%7\$).<5/ 57-+%52&/L%3*).+./J/A5.<./&)/
B+35*/]H?M' =` LAB^7#4__<*XZbCE<*PE7#Z! ."3.F3(#.#' //TaWwBBBB7"1 (&"7
O)&7: ^W(5/W-01/(1"+05WT)OD(-/05W(1-, (5/.5W' O&.) (5W: 0+, 305W: -5W
4015(h0# < .-"01.3#+(#4"(1-" .#D#@(-1030&k.#L4__<Z4C@N7#>J607#; 7<@-&5&/
&)/M\ `; MhR/4+! =%<&5&/6)&)*5<@5/ TUVeA/ H+*)2+.a/M+%57J<l A+!-)*%/ &)/
Hu>-7+7#Z! ."3.F3(#.#' //TaWwBBBB7-01.-D/7: ^W5""-D/W"1+(^7T' TW-(1/)05C
+(C"1!(5/"& .-"01C-01.-D/W. -/!" +. +C+(C-01.-D/CTO)C(5/. +OC6HHI C>J60W
.-/!" +. +C-01.-D/CTO)C(5/. +OC>J60W>01JC: 0)(305C>J60W"3(
q q q 7#>J6R:#j.1, .)D#>J7#n2"): .#+(#-01!(1"0#(1/)(#(3#401.-/#D#, 1"!)5"+. +(5#
T.)/"-. 3.) (5#T.).#90: (1/.)#(3#+(5.))0330#-"(1/k9'-O#D#/(-1031 &"-0#+(#8m^"-0\7#
A)(55#)3(.57#Z! ."3.F3(#.#' //TaWwBBBB7-01.-D/7: ^W"1+(^7T' TW-O: , 1"- .-"01W
-O: , 1"- .+05CT)(15.W>HOC9"): .+(C-01!(1"OC(1/)(C(3C-01.-D/CDC, 1"!)5"C
+. +(5CT.)/"-. 3.) (5CT.).C90: (1/.)C(3+(5.))0330C-"(1/"9"-OCDC/(-1030&"-OC+(C
: (^"-0
4015(h0# < .-"01.3#+(#A0F3.-"l 1#L4__<ZA__N7#

0=># \$# E: .103#_) +0)"Y.;#S0F()/0#S0+)k&, (d#PI : (d#.1+#8.)"01#b3OD+#

_) +0)"Y.;#E7#>J6J7#nb.#. , /O10: k.#, 1"! ()5"/.)".a#[1.#T()5T(-/"! .#T03k/"-. \7#F)*0-2) /
=&\$75<@+. #O>#1HKH07

_) +0)"Y.;#E7;#. 1+#S0+)k&, (d#PI : (d;#S7#>J6>7#n40F()/, .)#D#(5/), -/, .)#+(3#G"5/(: .#
*+, -."/!"O#8(^"- .10a#T)OF3(: †/"- .#D#T)OT, (5/.5\7#E1#F25%/ &)/ &-)E/5{+./45*5/
&).5**+225*/2/?-.<.), 5/= &\$75<@+/\` 57-+%52

8(^-0# \$# 0=0

S0+)k&, (d#PI : (d;#S7#L>J6RN7#n*+, --"l 1#5, T()#D#/) . 15"-01 (5#T03k/"-. 5# (1#
8m^"-0\7#G)@-. 5/&)/25/= &\$757-y%/(? \$4)*-+*#R0a#HK0?7

S0+)k&, (d#PI : (d;#S7;#. 1+#_) +0)"Y.;#E7#>J6>7#n@' (#-' . : (3(01Z5# . &(1+. a#
* 1/)(T)(1(,)". 3# . +. T/. /"01#09#T)! ./(' ' '&')# (+, -./"01#"1# 8(^-0\7#E1#
Q%-@)*. -<). /5%&/<8)/F\$127/?48)*k/##%+X2)&3)/M*)5<+% /5%&/ ?<5<)/! \$-2&-%3/-%/<8)/
=*5/+W A2+152-E5<+%;#(+)/(+#FD#` 7#A, 55();#] 7#] (: T1();#G7#8.)&"1501;#. 1+#E7#
_) +0)"Y.;#>6HK>R67#<(B#c0)Y;#<c a#S0, /3(+&(7

@' (#S, 55°.1#2(+)./'01# \$# 0==

B' 03(7#@' (D#' .!(#F((1#.F3(#/0#: 0+"9D#/' (#)"&' /5#.1+#OF3"&./'015#09#
/' (#)(&'015#.1+#/' (")#3(&.3#)(3./'015" T5#B#/' #' (#-(1/).3#5/./(#"1#0)+())
/O#&(/#F(//)#)(5, 3/5#"1#T.)/'-, 3.)#5(-/0)5#09#50-.3#.1+#(-010: "-#3"9(7#
@' "5#"5#B' D#/' (#/(): #T).&: ./'-#9(+).3'5: #L%033.1+()#.1+#A./T.1#
>JJ1N#5, &&(5/(+#FD#Z, 5/).3".1# '&' ()#(+, -./'01#)(5(.)-' ()5#-0, 3+#B(33#
F(#.TT3"(+#/0#/' (#S, 55°.1# '&' ()#(+, -./'01#5D5/(#: /007

@' "5#-' .T/()#F("&15#B#/' #.#+(5-)"T/'01#09#/' (#: .1#9(./,)(5#09#S, 55°.1#
9(+).3'5: #'/.#99(-#/' (#)'&' ()#(+, -./'01#5(-/0)7#E/#.)&, (5#/' .#/' (#
S, 55°.1#5/./(#'.5#.3B.D5#/')(+/#0#.-' "(#/')((#09/(1C-0193"-/'1&#
ØFh(-/'! (5q /0#T)(5)!(#/' (#, 1"/D#09#/' (#5/./;#0#5, TTO)/#)(&'01.3#(-0C
10: "-#+(! (30T: (1/#.1+#/0#(15,)(#.)&(/(+#5, TTO)/#0#)' (#+(! (30T: (1/#
09#5(3(-/+#T)/)5#09#/' (#-0, 1/)D\5#! .5#/(/)"/O)D#LU(-)((#09#A)(5"+(1/#
6HH?N7#@' "55(-/'01#.350#' '&' 3'&' /5#/' (#' /()0&(1(0, 5#5/), -/), (#09#/' (#
S, 55°.1#2(+)./'01#;B' ()(#+"99)(1/#/DT(5#09#)(&'015#' .!(#+"99)(1/#
-T.-/'(5#B#/' #)(#&.)+#/0#(+, -./'01#.1+#-, 3/.) (7#@' (5(#, 1'i , (#9(./,)(5#
09#/' (#GO!"/(#.1+#S, 55°.1#5/./(#' .!(#'.+T)090, 1+#": TO)/.1-(#90#/' (#
+(! (30T: (1/#09#'"&')#(+, -./'017

@' (#5(-01+#.1+#/' ")#5(-/'015#09#/' (#-' .T/()#+"5-, 55#/' (#' "5/0)D#
09#S, 55°.1# '&' ()#(+, -./'01#"1#/' (#-01/^(^#09#9(+).3#)(3./'015" T57#
S, 55°.1# '&' ()#(+, -./'01#" .5#.#" "5/0)D#0! ()#0JJ#D(.5#1#3(1&/' 7#2)0: #
/' (#!)D#F("&11"1&#/' (#(5/.F3'5': (1/#09#1(B#, 1"!)5"/'(5#.1+#-01)03#
0! ()#/' (")#OT()./'01#B.5#/' (#)5T015"F"3"/D#09#/' (#-(1/).3#&0! ()1: (1/7#
Z/#/' (#5.: (#/" (:#/' (#-(1/).3#., /' 0)"/'(5#(^T)": (1/(+#B#/' #!.)'0, 5#+9C
9()1/#B.D5#09#1!03!"1&#/' (#)(&'01.3#., /' 0)"/'(5#1#/' (#&0! ()1.1-(#.1+#
OT)./'01#09#/' (#' "&' ()#(+, -./'01#5D5/(: 7#E1#(-' #T()0+;#/' (#)03(#09#/' (#
)(&'01.3#., /' 0)"/'(5#)93(-/(+##/' (#5T(-"9"-#OFh(-/'! (5#09#'"&')#(+, -./'01#
B#/' "1#/' (#-01/^(^#09#1./'01B#+(#50-.3#.1+#(-010: "-#+(! (30T: (1/7#
@' (#5(.)-' #90)#1(B#:# 0+(35#09#9(+).3K)(&'01.3#1/().-'01#"1#" "&')#
(+, -./'01#B.5#T.)/'-, 3.)3D#.-/'! (#.9/()#/' (#-033.T5(#09#/' (#GO!"/# [1'017

@' (#90,)/' #.1+#9"9/' #5(-/'015#09#/' (#-' .T/()#+(5-)F(#/' (#-,))(1/#
)(&, 3./0)D;#5/), -/), 3#.1+#9"1.1-.3#.5T(-/5#09#1./'01.3K)(&'01.3#)(3./'01C
5" T5#1#" "&' ()#(+, -./'017#@' (5#)!(.3#.#, 1'i , (#3(! (3#09#-(1/).3'5: #1#
/' (#&0! ()1.1-(#09#'"&')#(+, -./'01#.1+#/' (#3.-Y#09#)(&'01.3#&0! ()1C
: (1/#1!03! (: (1/#1#, 1"!)5"/D#+(! (30T: (1/7

0=?# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

@' (#5#^/' #5(-/'01#09#/' (#-' .T/()#+"5-, 55(5# ' 0B# -(1/).3'5: # "1#
1./'01.3K)(&'01.3#)(3./'015' "T5#1# '&' ()#(+, -./'01#99(-/5#/' (#-' "(! "1&
09#5, -' #OFh(-/'! (5#09#T).&: ./'-#9(+).3'5: # 5#/' (#-'/'! (#.1+#F.3.1-(+#
+(! (30T: (1/#09#)(&'01.3# '&' ()#(+, -./'01#5D5/(: 57E/#5' 0B5#/' ./#'1/()C
)(&'01.3#+#99)(1-(5#.)(&)0B"1&7

@' (#9#1.3#5(-/'01#09#/' (#-' .T/()#+"5-, 55(5#/' (#/)(1+5# "1#9(+).3K
)(&'01.3#)(3./'015' "T5#1# '&' ()#(+, -./'01#1#/' (#5(.)-' #90)#.1#OT/' : .3#
' '&' ()#(+, -./'01#&0! ()1.1-(# : 0+(3# "1#/' (#-01/(^/#09#.#3.)&(#.1+#
' (/()0&(1(0, 5#-0, 1/)D#, 1+)&"1&#T03"/"- .3;#-, 3/ ,).3#(-010: "-.#.1+#
&(OT03"/"- .3# /).1590): ./'0157#E/#5, &&(5/5#T055'F3(#.TT)0.-' (5#/'0#/' (#
+(! (30T: (1/#09#/' (5#)(3./'015' "T57

@' (#S, 55".1#2(+)./'01#"5#/' (#3.)&(5#/#LFD#/(/))/'0)DN#-0, 1/)D#"1#/' (#
B0)3+;#(1-0: T.55"1B#/' : (#d01(57#@' (#.+: "1"5/)./'!(5/), -, /)(#
09#5, -' #.#3.)&(/())/'0)D#"5#-0: T3(^7#@' ()(#.)(#/')((#: ."1#3!((35#09#
&0! ()1.1-(#/' (#5/./(#-0: T)"5(5#/#B0#3!((35#09#&0! ()1.1-(Q9(+).3#
L1./'01.3#.#1+#)(&'01.3# ., /' 0)"/'(5#L.1.30&, (5#09# [G#5/./ (5;#P): .1#
"(%&)*;#4.1.+."1#T)0!"1-(5;#(/-7N7#@' (#/' ")+#5(T.)./#3!((3#09#&0! ()1C
.1-(#5#)(T)(5(1/(+#FD#/' (#: , 1-"T.3#, /' 0)"/'(57#@' "5B3!((3#5#10/#&)/n\$*)#
-015"+)(+##T.)/#09#/' (#5/./(:#F, /#)./' ()#.#90): #09#30-.3#.+ : "1"5/)./'01#
) (T)(5(1/"1&#/' (#T(OT3(\5#5(39C&0! ()1: (1/7

@' (#9(+).3#5/), -/,)(#09#S, 55".#1-3, +(5#Q=#2(+)./'01#5, Fh(-/5#L(1/'C
' (5Nq B' "-' #B(#B"33#)(9)#/0#.5#)(&'0157#Z--0)+1&#/0#Z)"/-3(#=#09#/' (#
4015"/', /'01;#1#)(3./'015#B"/' #9(+).3#FO+"(5#09#5/./(#, /' 0)"/D#.33#/' (#
5, Fh(-/5#09#/' (#S, 55".1#2(+)./'01#5'.33#F(#(i, .3#.: 01&#/' (: 5(3!(5(7

@' (#90330B"1&, %-.<^5<@)#0)#2)352#/DT(5#09#)(&'015#(^5#/"1#/' (#
-,))(1/#! ()5'01#09#/' (#4015"/', /'01a

•# G)4\$12-7#L>>#)(&'015N7# [13"Y(#0/')#)(&'015;#)(T, F3"-5#'.!(#.#1.: (#
' /'./#)(93(-/5#/' (#T)."/-, 3.)#(/' 1"-#&)0, T#Ln"/, 3.)#1./'01W#/' ./#"5C
)0)"-.33D#TOT, 3./(+##' (#/())/'0)D7#@' (#)(T, F3"-5#'.!(#/' (#)'&' /#0#

⁶E1-3, +"1": (.#.1+#G(!.5/OT03W#), /' ()#.1.3D5(5#B"33#1-3, +(#/' (5#)(&'015#
B')(#+./."#5#!."3.F3(7

@' (#S, 55".1#2(+)./"01# \$# 0=I

(5/.F3"5' #/' (")#0B1#-015"/, /"01#LB' "-' #: .D#10/#-01).+ "-/#/' (#
9(+). 3#-015"/, /"01#N. 1+++ (5"&1./ (#.+ +"/"01. 3#L/O#S, 55". 1N#1./"01. 3#
3. 1&, .&(57

- # F*+@%#)I+I25.<LR?#)(&"015N7#@' (#: 05/#1, :)0, 5#. 1+#/DT"- .3#/DT(#
09#.+: "1"5/)./"! (#, 1"/57
- # R)**-<+*JID*5-#LH#)(&"015N7#@')(#.)(#-,))(1/3D#10#)(.3#3(&. 3#+ "99()C
(1-(5#F(/B((1#/(/))"/O)"(5#. 1+#T)0!"1-(57#@' (#+"99)(1/#1.: (#"5#
. #3(&. -D#09#/' (#GO!"(/#: 0+(3#09#9(+).3"5: ;#B' (1#/' (#/(/))"/O)"(5#
"1-3, +(+#5T("-.3#n(/' 1"- \#+"5/)"-/57
- # M-<)./+0/0)&)*52/.-3%-0-75%7)#L0#)(&"015q 805-0B;#G/7#A(/)5F,)&#. 1+#
G(!. 5/OT03N7#@' (")#5/. /, 5#)(T)(5(1/5#/' (#50-. 3#(-010: "-#. 1+#-, 3C
,). 3#5"&1"9"- .1-(#09#/' (5(#T.)/"-, 3.)#-"/'(5#90)#/' (#-0, 1/)D\5#+(! (3C
OT: (1/#. 1+#/' (D#.)(#(1+0B(+ #B"/' #' (#5.: (#T0B()5# 5#/(/))"/O)"(5#
. 1+#T)0!"1-(57
- # ; \$<+%+, +\$. /4*+@%#) #L6#)(&"01q /' (#j(B"5' #Z, /010: 0, 5#A)0!"1-(;#
(5/.F3"5' (+#FD#G/. 3"1#1#6HOR#1#/' (#2.)#*. 5/#09#S, 55". #. 5#. 1#./(: T/#
/O#&!"(/' (#j(B5#. 1#. , /010: 0, 5#/(/))"/O)DN7#E/#. 5#/' (#)"&' /#/O#. +OT/#
30-. 3#F. 5"-#3. B#L. 1. 30&0, 5#/O#/' (#)(T, F3"-#-015"/, /"015N7
- # ; \$<+%+, +\$. /&-.<*-7<I+D*\$3#LR#)(&"015N7#@' (5(#' .! (#/' (#)"&' /#/O#. +OT/#

0=0# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5', YO!

@' (#F.5"-#9(./,)(5#09#: 0+()1#9(+().3"5: #B()(#"1' ()"/(+#9)0: #/' (#

@' (#S, 55°. 1#2(+()./"01# \$# 0=H

0?J# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

n.5D: : (/)"-\#9(+().3"5: #3(+#/O#. #5"/, ./"01#"1#B' "-' #' 05(#)(&"015#B"/' #
' (#&)(./5/#. F""3"/D#/O#: .Y(#/)0, F3(#9O)#805-0B#)(-"! (+#/' (#F(5/#9"5-.3#
+ (.35#L+ (#2"&, ("(+0#.1+#g ("1&.5/#>JJ>#G031"-Y#6HH=V#@)("5: .1#6HHH7

8.1.&:((1/\#>JJ=N7#@' "5#+0-; : (1/\#"&1"9"- .1/3D#(15,)(+##/ .)#(&"01.3#
., /' 0)"(5#90330B#/' (#1 (B#5/) -/#9(+).3#)(&, 3./"015#01#5, F1./"01.3#9"5-. 3#
) (3./"015#LU (#G"3! .#(#.37#>JJHN7

Z10/' ()#": T0)/.1/#. -/'01#B.5#/' (#>JJR#.F03"/"01#09# (3(-/"015#90)#
)(&"01.3#3(.+)5#.1+##/' (#"1/)0+, -/'01#09#T)0-(+,)5#90)#/' (")#.TT0"1/C
: (1/##+)(-/3D#FD#/' (#A)5#+(1/7#@' (#)(&"015#-.: (#, 1+(+)#/' (#9, 33#-01/)03#
09#/' (#9(+).3#&0!)1: (1/#.1+##' .+#B(.Y#"1-(1/"! (5#/0#-' 005(#/' (")#0B1#
+(! (30T: (1/#: 0+(357#@' (#)"&"+##&0! ()10)5#T()90): .1-(#: 01"/0)"1&#
B.5#": T3(: (1/(##/0#Y((T#/' (#&0! ()10)5#/'&' /3D# .--0, 1/.F3(#/0#/' (#
-(1/)(q 10/#/0#n/' (")#(&"01.3#T0T, 3./"017#@' ()(#B)(#10#"1+"-. /0)5#
09#/' (#T()90): .1-(#)3./(+##/0#" '&')#(+, -./"01#"1#/' "5#: 01"/0)"1&7

` (5"+(5#/' (#0Fh(-/'! (#09#5/)(1&/' (1"1&#/' (#"1/(&)"D#09#/' (#-0, 1/)D#;
/' (#-(1/).3#&0!)1: (1/#.": (+##/0#905/()#: 0)(#F.3.1-(+##+(! (30T: (1/#
F(/B((1#+99() (1/#)(&"015#"1"1"/."1&#. #1, : F()#09#50C-.33(+##n1./"01.3#
T)0h(-/5\7#<./"01.3#T)0h(-/5#B() (#-0, 1/)DB"+(#T)0&): : (5#"1#).5#5, -' #
.5# (.'3/' #-.)#/' 0, 5"1&#.1#+-0: : , 1.3#5()!"- (5#)0.##-015/), -/'01#.1+##
(+, -./"01#"1-3, +1#&/' (#(5/.F3"5": (1/#09#.##&)0, T#09#5/01&#, 1!"(5)"5#
0, /5"+(#805-0B#.1+#A(/)5F,)&#L50C-.33(+##9(+).3#, 1!"(5)"5#/' ./#B"33#
F(#+5-, 55(+##1#++(/."35#3./()#"1#/' (#-' .T/()N7#@' (5(#T)0h(-/5#: .1"95/(+
.#: 0)(#.-/'! (#)03#09#-(1/).3#&0!)1: (1/#"1#/' (#50-.3#+(! (30T: (1/#09#
/' (#)(&"0157#Z/#/' (#5.: (#/' #: ;#/'#T)O: 0/(+##T.55!" /D#.1+##T./()1.3"5/"-#
F(' !"0,)01#F(' .39#09#)(&"01.3#3(.+)57

@' (#/' ") +#5/.&(#09#+(! (30T: (1/#09#/' (#9(+).3K)(&"01.3#) (3./"015" "T5#
L9)O: #>J6J#0#/' (#T)(5(1/\#5#550-."/ (+##B"/' #' (#5(.)-' #90)#.#1(B#: 0+(3#
09#9(+).3"5: #' ./#B0, 3+##90)-(#/' (#)(&"015#/#O#F(#T)0.-/'! (#"1#/' (")#+(! (3C
0T: (1/;#B' "3(#: ."1/."1"1&#. #"'&' #3(! (3#09#/' (#-01/)03#9)O: #' (#-(1/)(7

@' (#("15/./"1	#/' (#5D5/(: #09#(3(-/'1&##&0! ()10)5#T)0!" + (5#.##&00+##
(^.: T3(#09#/' "5#/) .1590): ./"017#A0T, 3.)# (3(-/"015#B() (#) ("1/)0+, -(+##
F, /#/' (D#B() (#)5)"-/(+##FD#5T(-.3#9"3/()1&#: (-' .1"5: 5#/' ./#9.1!0,)#
-.1+#+./ (5#30D.3#/#0#/' (#-(1/).3#, /' 0)"(57#Z10/' ()#(^.: T3(#09#/' (#1(B#
.TT)0.-' #B.5#/' (#"1/)0+, -/'01#09#).15T.) (1/#-0: T(/"!"! (#: (-' .1"5: 5#
/0#+5/)F, /(#9(+).3#+(! (30T: (1/#&).1/5#F(/B((1#/' (#)(&"015#L"15/(: +##
09#+)(-/3D#": T05"1&#, 1"90): ##+(! (30T: (1/#: 0+(35#01# .33#)(&"015N7#@' "5#
3(+##/0#&)0B"1&#+99() (1-(5#F(/B((1#/' (#)(&"015#"1#(-010: "-#T()90)C
: .1-(# .1+##3!"1/.1+.)+57

0?># \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

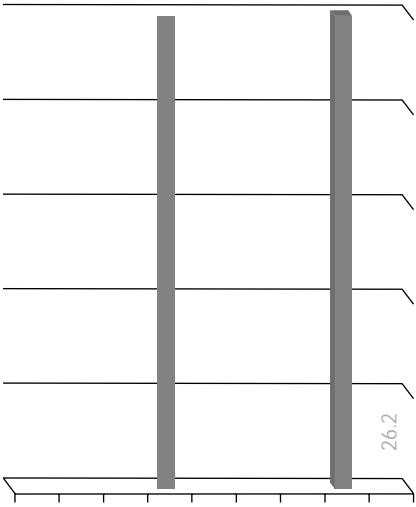
@' (#&0!) (1: (1/#-01/"1, (5#/0#: . "1/. "1#/"&' /#-01/)03#0! ()#(&"01.3#
"1-0: (5#.1+#-01/"1, (5#/0#-01-(1/)./(#9"1.1-"3#) (50,)-(5#9"1#' (#-(1/)(7#
8.h0)#/.^(5q !.3, (#.++(+/#. ^#.1+#-, 5/0: 5#+, /"(5q ' .!(#F((1#/) .15C
9())(+ #-0: T3/(3D#/#0#/' (#9(+).3#F, +&(/#0&(/');#/' (5(#/. ^5#&(1)C
./(#R?#T) #- (1/#09#/' ^#)!(1, (5#90)#/' (#&(1).3#-01503"+./(+ #F, +&(/#09#
/' (#S, 55".1#2(+)./"017#E1#/' (#S, 55".1#@. ^#40+(:#/' (#)(&"015#013D#
.+: "1"5/()#/' (#).15T0)/#/. ^;#T)OT()/D#/. ^5#.1+#/' (#/. ^#01#/' (#&.: F3"1&
"1+, 5/)D7# @' (#+5/)F, /"01#09#/' ^#)!(1, (5#F/(B((1#/' (#9(+).3#.1+#
)(&"01.3#F, +&(/5#"5#5' 0B1#"1#2"&,) (#H767

@' (#5' .)(#09#)(&"01.3#/. ^5#"1#/' (#-01503"+./(+ #F, +&(/#09#/' (#S, 55".1#
2(+)./"01#"5#(^): (3D#30B7#@' (#F.5"-#/' ^#)!(1, (5#09#/' (#)(&"01.3#
F, +&(/5#.)(#. --0, 1/(+ #FD9(+).3#/. ^5q T)501.3#.1+#-0)T0)/(#1-0: (#
/. ^#L@.F3(#H76N7#@' (#9(+).3#/. ^#. , /' 0)"D#.+: "1"5/)./(5#/' (5(#. ^5;.1+#
)(&"015#-.110/#-' .1&(#/' (: 7#@' ./#F("12#.33#)!(1, (5#9)0: #T)501.3#
"1-0: (#/. ^#.)(#/).159())(+ #/0#/' (#)(&"01.3#F, +&(/#L2"&,) (#H76N7#@' "5#
: (.15;#"1#9.-;/#/' ./#.1D#-' .1&(5#"1#/' (#)(&"015#9"5-.3#T03"-D#'.!(#3"/3(#
99(-/#01#/' (")#9"1.1-"3#-01+/"017

E1-)(.5(+ #- (1/).3"d./"01#09#9(+).3#9"5-.3#T0B()#"5#-3(.3D#+(: 01C
5/)./(+#"1#2"&,) (#H7>7

E/#"5#"1/)(5/"1&#/' ./#"1#6HHI#L+,)"1&#/' (#.90): (1/"01(+ #nB.)#09#
50!)(" &1/"(5W#;.FO, /#0J#T) #- (1/#09#)(&"015#'. +#. #T05"/!"(9"1.1-"3#
F.3.1-(#B"/' #9(+).3#F, +&(/57#@' (#1, : F)09#5, -' #n+010#)(&"015#
LF, +&(/.D)5(39C5, 99"- (1/W#+)0TT(+ #9)0: #6Q#"1#>JJJ/#0#60#"1#>J6J#
L.FO, /#6=#T) #- (1/#09#.33#)(&"015N;#.3/' 0, &' #/' (5(#)(&"015#-01/"1, (+
/0#&(1)./(#: 0)(#/' .1#=>#T) #- (1/#09#PUA7#@' (#: .h0)"D#09#/' (#9"5-.3#
5,)T3, 5#)(&"015#09#/' (#2(+)./"01#.)(#/' 05(#B')(#0"3#.1+#&.5#T)0+, -/"01#
+0: "1./5#/' (#(-010: D7#_13D#/' (5(#)(&"015#-.1#.990)+#n: 0+)1"d./"01#
(^T): (1/5#/' ./#: "&' /#"1-3, +(#)(90): 5#"1#)5(.)-' #.1+#+!(30T: (1/#
.1+#"1#' '&')Q(+, -./"017

@' "5#"5/0"- .3#.1.3D5"5#-019"): 5#/' ./#;+,)"1&#/' (#>=#D(.)5#5"1-(#/' (#
-033.T5(#09#/' (#GO!"/# [1"01;#S, 55".#'.5#(^T): (1/(+ #B"/' #+"99) (1/#

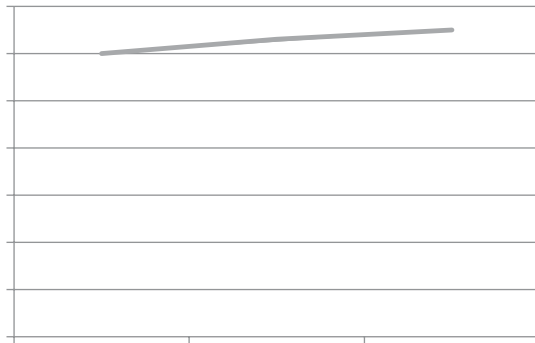


0?R# \$# E5.Y#2)0, : "1#. 1+#_3(&#b(5' , YO!

1. **9.1** *The Structure of Tax Revenues for the Consolidated Budgets of the Regions of the Russian Federation, 1 March 2014 (%)*

| | |
|------------------------|------|
| Personal Income Tax | 39.5 |
| Corporate Income Tax | 30.7 |
| Property Tax | 10.8 |
| Excises | 7.5 |
| Mineral Production Tax | 0.7 |
| Other Tax Revenues | 10.8 |

Source: Ministry of Finance.



@' (#S, 55. 1#2(+). /'01# \$# 0?=-

07# @.)&/(+#+(! (30T: (1/#L: 0+()1"d./"01N#09#50: (#F.-YB.)+#T.)/5#09#
' (#-0, 1/)D

@' (#T)0F3(: #'5#/' ./#' (5(##'))(#0Fh(-/'! (5#09/(1#-01/). +"-/#01(#. 10/')7#
E9#S, 55'. #-' 05(#/0#0-, 5#01#/' (#5(-01+#0Fh(-/'! (;#/#B0, 3+#F, "3+#: .)Y(/C
T)(5)! "1	(+). 3'5: #L+(#2"&, (")+0#. 1+#G ("1&.5/#>JJ>N7#@' (#9) .: (C
B0)Y#09#: .)Y(/CT)(5)! "1	(+). 3'5: # "1-3, +(5#90,)# : . "1# (3(: (1/5#
L.N#5, F1./"01. 3#&0! ()1: (1/5# ' .! (#T)": .)D#)(&, 3./0)D#.. /' 0)"D#0! ()
' (")# (-010: DV#LFN#/' (# (^"5/(1-(#09#.#-0: : 01#: .)Y(/q .F5(1-(#09#
)5)"/-"015#90)#+"99() (1# " &' ()#(+, -. /"01#-015, :)5V#L-N#'. .)+#F, +&(/#
-015/). "1/5#"1#/' (#9"5-. 3#5D5/(: V#. 1+#L+N# "15"/, /"01. 3#T)O/(-/"01#09#/' (#
9(+). 3#). 1&: (1/7# 8.)Y(/CT)(5)! "1	(+). 3#5D5/(: 5#.) (#3"Y(3D#/O#
(^ "F"/#-0: T(/"01#.: 01, F1./"01. 3#&0! ()1: (1/5#/' ./#(1.F3(5#/' (: #
/O#905/)#&00+#(-010: "-#)(5, 3/57

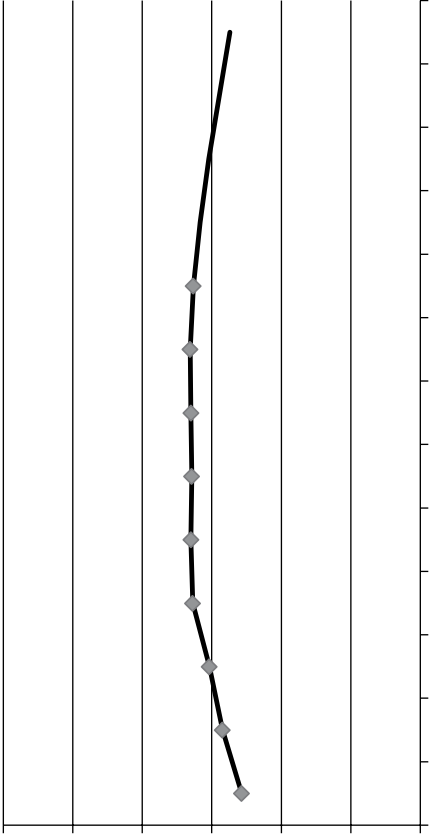
@' (#. //(: T/5#09#/' (#-(1/). 3#.. /' 0)" /" (5#/#0#-0: F"1(##/' (#T)"1-"T3(5#
09#: .)Y(/CT)(5)! "1	(+). 3'5: ;# B' "3(#) (/."1"1&#/' (#n01(C5'd(C9"/5C
. 33#T03"-D#90)#/' (#)(&"015;# ' .! (#-)/(+ # B' ./#G3"+()#L6HHI N#-. 33(+
n: .)Y(/C+/"5/0)"1	(+). 3'5: 7# S(&, 3./0)D#.. 1+#9"5-. 3#)(&, 3./"01#09#
1./"01. 3K)(&"01. 3#)(3./"015" "T5#": T(+ (5#)(&"01. 3#+(! (30T: (1/;# "1-3, +C
"1&#/' ./#09# ' &' ()#(+, -. /"01# .5#T.)/#09#/' (#T, F3"-#5(-/0)7#S, 55'. #' .5#
5, 99() (+#5" &1"9-. 1/#3055(5#+, (#/0# 805-0B#5# //(: T/5#/0#Y((T#5/0)1#&
T03"/"- 3#. 1+#9"5-. 3#-01/03#0! ()#/' (#)(&"0157#@' "5#'. 5#3(+/#0#.#5)"YC
"1.-Y#09#-00T). /"01#F(/B((1#/' (#-(1/)(#. 1+#/' (#)(&"015;#D"(3+"1&
-015"+). F3(#3055(5# "1#50"- .3#5,)T3, 5#L+(#2"&, (")+0#. 1+#G ("1&.5/#>JJ>N#
z',). !5Y.D.#>J6JN7

20330B"1&#/' (#+(9"1"/"01#5, &&(5/(+#FD#%033. 1+()#. 1+#A./ .T. 1#
L>JJI N#90)#Z, 5/). 3'. #/' (#S, 55'. 1#: 0+(3#09#9(+). 3'5: #-0, 3+#. 350#F(#
-. 33(+ #nT). &: ./- \7#@' "5#: 0+(3#09#9(+). 3K)(&"01. 3#)(3./"015" "T5#"5#
10/#.#5/. F3(#.&)((: (1/#F(/B((1#/' (#5, Fh(-/5#09#/' (#9(+). /"01#F, /#.#
&0! ()1. 1-(#: (-' .1'5: #-' 05(1#FD#/' (#-(1/). 3#&0! ()1: (1/7#A). &: ./"-#
9(+). 3'5: # "5#-015"+() (+# ')(#. 5#5&/8+7#+")(-/#) (503, /"01#09#T.) /"- , 3.)#
1./"01. 3#T)0F3(: 5# "1#/' (#-01/ (^/#09#5T(-"9"-#T03"-D#.&(1+ .57#A). &: ./"-#
9(+). 3'5: # "5#T)0F3(: C+)!" (1#"1#.#T.) /"- , 3.)#T() "0+#09#&0! ()1: (1/#
+(! (30T: (1/#. 1+#+0(5#10/#(5T(-. 33D#)(i, ") (#/' (#5/)(1&/' (1"1	#/' (#
TOB()5#09#/' (#-(1/)(q +(T(1+"1&#). /')#01#/' (#: 05#(99(-/'! (#B.D#09#
503!"1&#/' (#T)0F3(: 7

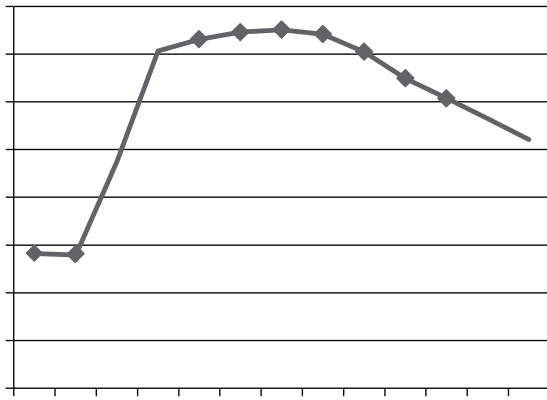
0??# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

Z5#. #)(5, 3/#09#/' (#': T3(: (1/. /"01#09#/' (#T). &: ./"-#9(+(). 3"5: #: O+(3#
.": (+#/O#/')((# : (1/"01(+#OFh(-/"! (5;#/' ()(#' .5#F((1# 10#5"&1"9"- .1/#
) (+, -/"01#"1#/' (#' (/()O&(1("/D#09#/' (#S, 55". 1#)(&"0157#@' (#S, 55". 1#
)(&"015#!.)D#5"&1"9"- .1/3D#10/#h, 5/#"1#/' (")#3(&.3#/DT(#F, /#. 350#"1#/' (")#
&(O&). T' "-.3#. 1+##+(: O&). T' "-#-' .). -/()"5/"-57#@' (D#.)(#. 350#!()D#+ "9C

@' (#S, 55°. 1#2(+()./"01



@' (#S, 55°. 1#2(+)./"01# \$# 0?H



01J# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

09#B' "-' #QJ0;=JJ#B()(#(1)033(+#"1#T)"! ./(#"15"/, /"0157#@' (#+(-3"1(#"1#(1)03: (1/#9)0: #>JJH#01B.)+#-0, 3+#F(#(^T3."1(+FD#/' (#+(-).5"1&#+(: 0&).T' "-#F.5(7#@' (#1, : F()#09#5-' 003#&).+, ./5#+(-3"1(+FD#R=#T()#-(1/#9)0: #>JJ=#/0#>J6J7

Z1#": T0)/.1/#9(./,)(#09#/' (#S, 55".1#" '&' ()#(+, -./"01#5D5/(: #5#/' (#' '&' #T)0T0)/"01#09#T.)/C/: (#5/, +(1/57#E1#>J6R;#013D#=#JT()#-(1/#09#/' (#/0/.3#1, : F()#09#5/, +(1/5#B()(#(1)033(+#"1#9, 33C/: (#T)0&).: : (57#@' (#)(: ."1"1&#>7?#: "33"01#B()(#5/, +D"1&#"1#T.)/C/: (#(+, -./"01.3#T)0&).: : (5;#(1.F3"1&#/' (#/0#B0)Y#9, 33C/: (7

E1#.--0)+.1-(#B"/' #Z)/"-3(#R0#09#/' (#4015"/, /"01#09#/' (#S, 55".1#2(+)./"01;#-"/"d(15#' .!(#/' (#)"&' /#0#.#9)((#!0-./"01.3#(+, -./"01#.1+#.9)(#9)5/#/: (#' "&' ()#(+, -./"01#L/')0, &' #/' (#-0: T(/"!" (#.+ : "55"01#T)0-(55N7#%0B(!)#/' (#).T"+#(^T.15"01#09#'"&' ()#(+, -./"01#' .5#10/#": T05(+#: , -' #F,)+(1#01#/' (#T, F3'-#F, +&(7#4,))(1/3D;#01#.! ()&(:#R=#T()#-(1/#09#

, 1"! ()5"/" (5#) (: . "15#5"&1"9"- . 1/7#S(i , ") (: (1/5#09#-0: : 01#9(+). 3#5/./ (#
(+, -./"01. 3#5/. 1+.)+5;#) (-/0)5\#. T T0"1/: (1/#T)0-(+,) (5;#1./"01. 3C3(! (3#
5/./ (#. --) (+"/./"01#. 1+#3" - (15"1&;#. 1+#5/) "1&(1/#-01+/"015#90)#(^T(1+"C
/,) (# . 1+#9"1. 1-" . 3# : . 1. & (: (1/# .) (#h, 5/#50: (# (^ . : T3(5# 09# (^/()1. 3#
. /' 0)" /" (5\#+") (-/#-01/)03#0! ()#/' (#OT(). /"01#09#, 1"! ()5"/" (57#%0B(! ();#
/' (#9(+). 3# "1! 03! (: (1/#: 05/3D#"5#3": "/(+##FD#-01/)03#). /' ()#/' . 1#5/). C
/(&"-#"193, (1-(7#A, F3"-#, 1"! ()5"/" (5#+0#10/#(1hOD#5/)01, T()!"5"01#09#

@' (#S, 55. 1#2(+). /"01# \$# 010

@' (#50-" .3"5/#)(&": (#+"-./.(+#/' ./#.33#)(&"01.3#. 1+#30-. 3#. , /' 0)"/"(5#
9. "/' 9, 33D#90330B#/' (#+")(-/"015#. 1+#T03"-D#09#/' (#1. /"01. 3#&0! ()1: (1/#
"1#. --0)+. 1-(#B"/' #' (#T)"1-"T3(#09#+ (: 0-). /"-#-(1/). 3"5: 7#@' (#GO!"(/#
' "&' ()#(+, -./"01#&0! ()1. 1-(#: 0+(3#B. 5#/0#50: (#+(&)((#(99(-/"! (#90)#

01R# \$# E5.Y#2)O, : "1#.1+#_3(&#b(5' , YO!

/' "5#T()"O+;#+(T.)/: (1/5#90)#/' (#5, T()!"5"01#09#' "&' ()#(+, -./"01#B()(#
-)(./(+#B"/' "1#50: (#)(&"01.3#&O!()1: (1/57

U,)"1&#/' "5#5/.&(#09#(+)./"01#-015/), -/"01;#/' (#% *E5#/' ./#' .+#F((1#
(5/.F3"5' (+#, 1+()#/' (#GO!"(/#&O!()1: (1/#' .+#/O#.+.T/#/O#. #-O: T3(/3D#
1(B#(1!"01: (1/7#@' (D#B()(#90)-(+#/O#.-/#i, "-Y3D#/O#. +h, 5#/O#/' (#
(-010: D\5#).T"+#5' "9#/O#. #: .)Y(CF.5(+5D5/(: #09#3.FO,)#.330-./"01;#
/O#.#+(-3"1(#09#T, F3"-#9, 1+"1Z)#' "&' ()#(+, -./"01#-. , 5(+FD#.#+(CT#
.1+#301&# (-010: "-#)(-55"01#.1+#/O#/' (#1(-55"/D#/O#). "5(#)!(1, (5#
/')O, &' #9((CF.5(+5#)!"-(57

@' (#)(&"015#' .!(#/' (#)"&' /q 10/# .-/, .33D# (^T3"-/#"1#/' (#1(B# b.Bq /0#-)(./(#.1+#9"1.1-(#/' (")#0B1#)(&"01.3#, 1"!)5"/" (57# Z#/' (# 5.: (#/' : (#/' (#)(&"01.3#., /' 0)" /" (5# #' .!(#5(!().3#0/')#3(&.3#-' .11(35# /O#193, (1-(#9(+).3#.1+#T)! ./(%E*5#B"/' "1#/' (")#/(O)"(5#L2)0, : "1# .1+#b(5', YO! #>J6=N7# 805/#09#/' (5(#-' .11(35#B(O)(#-)(./(+)(3./"!(3D#)(-1/3D#L+,)"1&#/' (#/' ")+++(!(3OT: (1/#T(O)"0+#09#9(+).3K)(&"01.3#) (3./"015' "T5#NB' (1#/' (#9(+).3#., /' 0)" /" (5#) (.3'd(+#/' ./#/' (D#-0, 3+#10/# (99(-/'!(3D#: .1.&('#, 1+)(+5#09#, 1"!)5"/" (57#@' (5(#O/')#3(&.3#-' .11(35# "1-3, +(#/' (#9030B"1&a

- # E193, (1-"1&#/' (#.TTO"1/: (1/#09#, 1"!)5"/D#T)(5"+(1/5#/')0, &' #30FC FD"1#/' (#9(+).3#3(! (3
- # A)0!"+"1&#)(&"01.3#.TT)O! .3#9O)#/' (#-(1/).3#&O!()1: (1/\5.330-./"01# 09#n9)((\5/#, +(1/#T3.- (5#9, 1+(+9#)O: #/' (#9(+).3#F, +&(/
- # ZTTO"1/"1&#)(&"01.3#)(T)(5(1/./"!(5#01#/' (#5, T(O)"50)D#FO.)+5#09# /' (#, 1"!)5"/" (5
- # 401/).-/'1	(+).3#, 1"!)5"/" (5#/O#/) ."1#.++"/"01.3#5/, +(1/5#.1+#/O# +O#)(5(-)' #.1+++(!(3OT: (1/#L.FO, /#OJM#09#/' (#)(&"015#' .!(#5, -' # -01/).-/5#B"/' #9(+).3#, 1"!)5"/" (5N
- # @.159(O)"1&#)(&"01COB1(+T)OT(/" (5#LF, "3+"1&5N#O/#, 1"!)5"/" (5
- # 4)(./"1T(-.3#.&(1-"(5#O)#+(T.)/: (1/5#B"/' "1#)(&"01.3#&O!()1C : (1/5#/O#5, T(O)"5(#' "&')#(+, -./"01#L.FO, /#>JM#09#/' (#)(&"015#' .!(# 5, -' #.&(1-"(5N
- # @' (#T055"F"3/D#90)#/.)&/(+9#1.1-"1	#%*E#B"/' #5T(-.3#5/./, 5# 09#n9(+).3#, 1"!)5"/" (5#\L/O#F(#+(5-)F(+#"1#9,)/')#3./ (O)N#9)O: #/' (#)(&"01.3#F, +&(/
- # GO: (#9(+).3#'"&')#(+, -./"01#+(!(3OT: (1/#T)O&): : (5#(1!"5.&(# -OC9"1.1-"1	#/' (")#"1"/' ./"!(5#FD#)(&"01.3#., /' 0)" /" (5

@' (#) ./'"O#09#)3-+%52#L5, FO)+"1./(+#/O#/' (#)(&"01.3#., /' 0)" /" (5N#/O#9(+).3# L1./"01.3#n, 1"!)5"/" (5# .5#) (: ."1(+#.3: 05/#, 1-' .1&(+#O!)#/' (#T.5/#>J#

^{Of} __,)#.1.3D5"5#5, &&(5/5#/' ./#/' (5(#)(&"015#' .!(#5)01&O)#(1&.&(: (1/#B"/' #/' (#

01Q# \$# E5.Y#2)O, : "1#. 1+#_3(&#b(5' , YO!

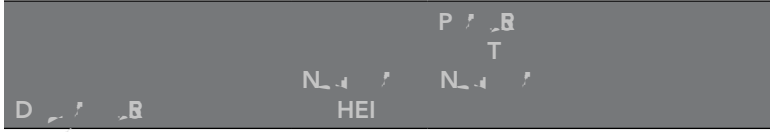
D(.)5#L5((#2"&,)(#H7=N7#E1#>J6R;#O13D#.)O, 1+#H#T()#-(1/#O9#. 33#T, F3"-# , 1"! ()5"/" (5#LRH#% *E5N#B() (#-O1/)O33(+ #FD#) (&"O1. 3#. , /' O)" /" (57#@' (5# , 1"! ()5"/" (5# . +#/O#T. 55#1. /"O1. 3#. --)(+ "/. /"O1#1#O)+ ()#O# B.)++ (&)((5#)(-O&1"d(+ # -0, 1/)DB"+ (7# @' (D#. 35O# ' .! (#/O# 9O33OB# 9(+). 3# 3. B#O1# ' "&' ()#(+, -. /"O17#%OB(!);#/' (D#.) (#9, 33D#+ (T(1+(1/#9"1. 1-" . 33D#O1#/' (#)(&"O1. 3#. , /' O)" /" (57#@' (D#. 35O# ' .! (#/O#+ (: O15/). /(#.#TO5"/" ! (#": T. -/# O1#/' (#) (&"O1\5#(-O1O: "-#. 1+#5O-" . 3#+ (! (3OT: (1/#1#O)+ ()#O#5,)!"! (7# __9#. 33#/' (#) (&"O1. 3#, 1"! ()5"/" (5;#>J#T()#-(1/#.) (#O9#.) /5#/' . /#) (93(- /#/' (# - , 3/ ,). 3#+ (1/"D#. 1+#1((+5#O9#/' (")#T.) /"- , 3.)#) (&"O17

F* -@5<)/\$% -@)* .-<). #.) (#) (&, 3. / (+#O1#/' (#9(+). 3#3(! (37#A, F3"-#. 1+#T)"C

.1+#9.33"1&#"1/O#-): "1.3#5/, -,) (5#LE3D"15YD#>JJRN7#@' "5#3(+/#0#. #5"/, C
./'01#B' ()("1#/' (#! .5/#: .h0)/D#09#T)! ./(#, 1"! ()5"/ (5#-01-(1/)./(+#01#
(-010: "-5;#: .1.&(: (1#.1+#/' (#' , : .1"/ (57#@') (#"5# 10#-0: : 01#
T.//()1#90)#(3./"015' "T5#F(/B((1#T)"! ./(#, 1"! ()5"/ (5#.1+#/' (#)(&"01.3#
. , /' 0)" / (57#E1#: 05/#-.5(5;#/' (#)(&"01.3#., /' 0)" / (5#+0#10/#-.)(#.FO, /#
/' (#T)"! ./(#"15"/, /"015q /' (D#-015"+)#/' (: #T.)/#09#/' (#5!) "-(#5(-/0)7#
E1#50: (#-.5(5;#90): ()#)(&"01.3#3(.+(05#0)#/' (")#(3./" (5#'. ! (#-)./(+#
/' (5(#"15"/, /"0157#E1#/' (5(#-)-, : 5/.1-(5;#/' (#T)"! ./(#, 1"! ()5"/ (5#-0, 3+#
F(-0: (#.1#": T0)/.1/#T.)/#09#/' (#)(&"01.3# " &' ()#(+, -./'01#5D5/(: 7#E1#

00J# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5', YO!

1. 9.3 The Distribution of HEIs (Without Branches) by Controlling Agency (2014–2015)



(&"O15#B"/' #.#3.-Y#O9#, 1"! ()5"/" (5;#/' (#F).1-' (5#' .! (#503! (+#/' (#.--(55# T)OF3(: 7#@' (#-,))(1/#/O/.3#1, : F()#O9#5/, +(1/5#./#5, -' #F).1-' (5#"5#6I# T)#-(1/#O9#/' (#/O/.3#1, : F()#O9#5/, +(1/57#@' (#: .hO)"/D#O9#5/, +(1/5#"1# /' (#F).1-' (5#T.D#/' (")#/, "/O1#9(57#@' (#1, : F()#O9#T.)/C/" : (#5/, +(1/5# (^-(+5#=#J#T)#-(1/"1#HJ#T)#-(1/#O9#, 1"! ()5"/D#F).1-' (57#@' (#9(+).3# ., /' O)"/" (5#90, 1+#/' ./#: .1D#F).1-' (5#F(-.: (#h, 5/#)!(1, (C&(1O)./"1&# : .-' "1 (5#90)#/' (#T.) (1/#, 1"! ()5"/D#.1+#5./)/(+#/O# (: T3OD#3"-(15"1&# .1+#.--)(+/"O1#"15/), : (1/5#/O#-305(#/' (5(#F).1-' (57#U,)"1&#/' (# T)"O+#>JJQK>J6=#/' (#/O/.3#1, : F()#O9#F).1-' (5#9(33#FD#O!)#>J#T()#

@' (#S, 55°. 1#2(+()./"01# \$# 006

0Q># \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

@' (#&O! ()1: (1/#/)"+(#/O#/) .1590): #.#&O, T#O9#S, 55".1#, 1"! ()5°C /"(5#"1/O#&3OF.33D#-0: T(/"#! (#)5(.)-' #, 1"! ()5"/"(5#, 5"1&#/' (#n&3OF.3#)5(.)-' #, 1"! ()5"/D#: 0+(3#L80'): .1;#8.#.1+#`.Y()#>JJQN7#@' "5#/.5YT)O! (+#! ()D#+99"-, 3/#+, (#/O#/' (#301&C5/.1+"1&#GO!"(/#).+/"O1#O9#5(T)./"1&# '&' ()#(+, -."O1#.1+#)5(.)-' ;#-01-(1/)./(+#"1/' (#Z-.+(: D#O9#G-"(1-(57#E1#>JJH#.1+#>J6J;#>H#, 1"! ()5"/"(5#B01#.#-0: T(/"O1#O#.-i, ")#/' (#5/./, 5#O9#1."O1.3#)5(.)-' #, 1"! ()5"/"(5#.1+#)-(! (#5T(-.3#&).1/57#@' (#)&"O1.3#., /' O)"(5#B()(#10/#"1!O3! (+#"1/' "5#T)Oh(-/7#Z5#. #)5, 3;/#/#+"#10/#' .! (#.#5O)"0, 5#': T.-/O1#9(+).3K)&'O1.3#)3./"O15" "T5#"1#" '&' ()#(+, -."O17

@' (#1(^/#/.&(#O9#/' (#T)Oh(-/#-' .1&(+##' (#./"/, +(#O9#/' (#)&"O157#E1#>J6>#6R#O9#/' (#1."O1.3#)5(.)-' #, 1"! ()5"/"(5#B01#.#1(B#-0: T(/"O1#-01+, -/(+##D#/' (#80*G#O#&(/#5T(-.3#&).1/5#O#": T)O! (#/' (")#&3OF.3#-0: T(/"#! (1(55;#B/' #' (#.#": #O9#9"33"1	"!(#T05"/"O15#"1#/' (#/OT#6JJ#, 1"! ()5"/"(5#).1Y"1&5#FD#>J>Jq /' "5#T)Oh(-/#B.5#-.33(+##/' (#nS, 55".1#*^- (33(1-/#E1"/"./'! (#O)#A)Oh(-/#=C6JJV7#E1#>J6=#5(! (1#; O)(#, 1"! ()5°C /"(5#B()#.++(+##/O#/' "5#&)O, T7

@' (#)&"O1.3#., /' O)"(5#10/"-(+##' ./#5, -' #, 1"! ()5"/"(5#-0, 3+#F)"1&#/.3(1/5#.1+#: 01(D#O#/' (")#&"O157#8.1D#&O! ()10)5#3OFF"+#9O)#/' (")#, 1"! ()5"/"(5#+, "1&#/' (#-0: T(/"O17#Z5#. #)5, 3;/#5, -' #, 1"! ()5"/"(5;#! (1#B/' #)3./"!(3D#30B#-.T.-"/D;#TT.) (+#"1#60#)&"O157#@' (#+"5)"F, /"O1#O9#5, -' #, 1"! ()5"/"(5#"5#5' O1B1#"1#2"&,) (#H7?7

Z/#/' (#5.: (#/' : (#/' (#&3OF.3#O)"(1./"O1#O9#/' "5#T)Oh(-/#: (.15#/' ./#/' (#' : (+./(#3"1Y.&5#F(/B((1#/' (5(#, 1"! ()5"/"(5#.1+#30-.3#(-O10: "-#.1+#50-.3#5D5/(: 5#.)#F(-O: "1&#! (1#B(.Y()7

_1(#-0, 3+#5.D#/' ./#/' (#)&(, 3./O)D#.1+#5/, -/,).3#TO3-"(5#O9#/' (#S, 55".1#&O! ()1: (1/#(.+##/O#/' (#5/)(1&/' (1"1&#O9#/' (#)O3(#O9#/' (#-(1/)(#"1#" '&' ()#(+, -."O17#%&'&' ()#(+, -."O1#'.5#F(-O: (#; O)(#)./' ()#/' .1#3(55#-(1/).3"d(+##, 1+O)T).&: ./"-#9(+).3"5: ;#B(.Y(1"1&#/' (#)O3(#O9#/' (#)&"O157#*! (1#/' (#n9(+).3#, 1"! ()5"/"(5;#+(5"1(+##/O#F(-O: (#+)"! ()5#O9#)&"O1.3#+(! (3OT: (1;/#B()#(5/.F"3"5' (+#.1+#: .1.&(+##FD#.#-(1/).3# : "1"5/)D7

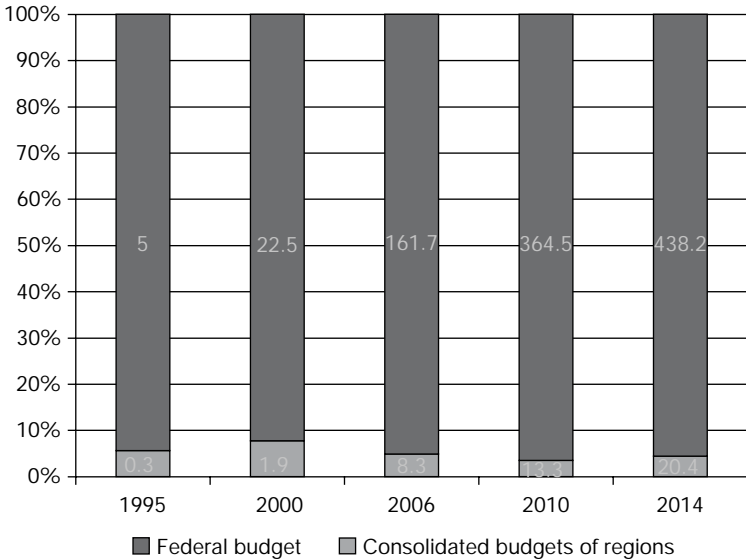


F. . . 9.6 *The Location of Universities Participating in the Russian Excellence Initiative*
Source: Prepared by authors based on information of the Ministry of Education and Science of the Russian Federation.

0QR# \$# E5.Y#2)O, : "1#.1+#_3(&#b(5' , YO!

Z5#T)!"0, 53D#: (1/"01(+;# =0#T()#-(1/#09#/' (#"1-0: (#09#/' (#' "&')#
(+, -./"01#5D5/(: # -0: (5#9)O: #' (#T, F3"-#F, +&(/;#.1+##H?#T()#-(1/#09#
' (5(#T, F3"-#9, 1+5#-0: (#9)O: #' (#9(+).3#F, +&(/#L2"&,)(#H71N7

@' (#) (.501#F(' "1+##/' "5#30B#3(! (3#09#T.)/"-"T./"01#09#/' (#)(&"015#"1#
9, 1+"1&# '&')#(+, -./"01#5#/' (#3. -Y#09#)(&"015#B"/' #5, 99"- (1/#)!(1, (57#
Z5#B(#+"5-, 55(+;# l >#09#/' (#0=#)(&"015#.) (#5, F5"+d(+##FD#/' (#9(+).3#
&O! ()1: (1/7#E/#"5#5/)"-/3D#T)O' "F"/(+#/O#5T(1+##/' (#5, F5"+(5#01#'"&')#
(+, -./"017#@' (#)(&"015#.) (#/' , 5#90)-(+#/O#300Y#90)#.3/(1./"! (#B.D5#/O#
9"1.1-(#/' (#30-.3#, 1"!)5"/"5#B' (1#/' (D#B.1/#/O#"1-3, +(#/' (#' "&')#
(+, -./"01#5(-/O)"#1#/' (")#(-010: "-##+(! (30T: (1/#T3.15#L] , ' 15#>J66N7#
@' (5(#9(. /,)5#09#9"5-.3#9(+).3"5: #' ()90)(#T)O!"+(#10#"1-(1/"! (5#90)#
)(&"015#/O#T, /#/' (")#: O1(D#"1/O#, 1"!)5"/"57#2,)/' (): O)(#/' (#T)(5C
(1-(#09#, 1"!)5"/"5#9"1.1-(+#503(3D#9)O: #' (#9(+).3#F, +&(/#5;#T)": .)"3D#
9)O: #.1#(-010: "-#!"(BT0"1/;#. +! .1/.&(O, 5#90)#)(&"01.3#&O! ()1: (1/5#
Lb(5' , YO!#.1+##` O)"50!.#>J6RN7#@' (#)(&"015#-0: T(/(#B"/' #(.-' #O/')#
/O#)(-("!(# : O)(#9(+).3#.1+##T)"!./(#: O1(D#90)#/' (")#'"&')#(+, -./"01#



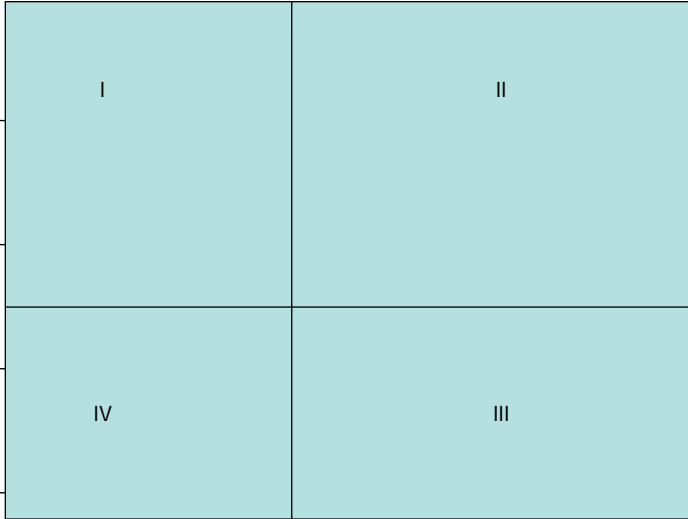
F. 9.7 The Total Funding of Higher Education System from Public Sources (in Billion Roubles)

Source: Federal State Statistics Service.

@' (#+"5/) "F, /"01#09#T()#5/, +(1/#9, 1+"1)0: #' (#9(+). 3#F, +&(/#/# /' (#)(&"015#+(: 015)/.(5#5" &1"9"- .1/#.5D: : (/)D#1##' (#9"1.1-" .3#5, F5"+(5# 09#, 1"!)5"/" (5#09#+ "99)(1/#)(&"015#L2"&,) (#H7Q;#U#. ^"5N7

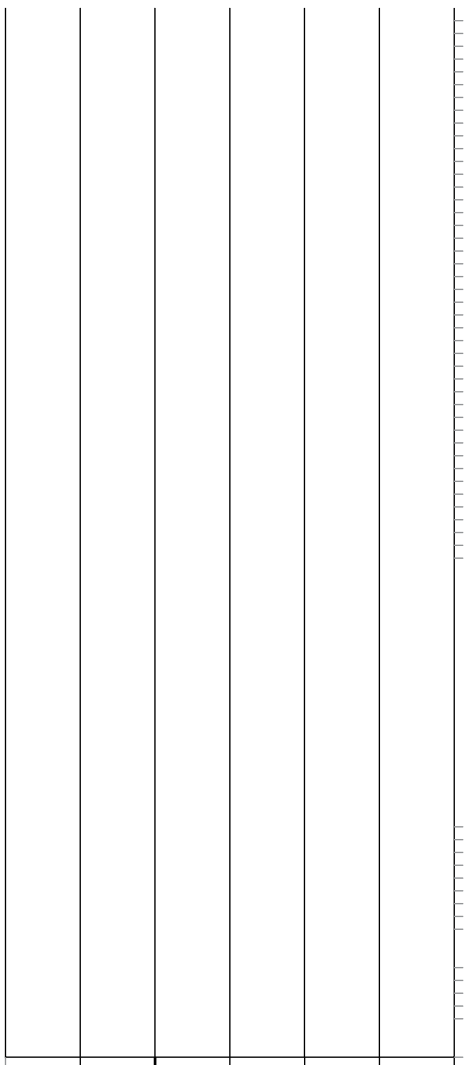
G, -' #+"5T.)"/" (5#: .D#F(#-. , 5(+ #FD#/' (#+"99)(1/#(-010: "-#-01/(^/5# 09##' (#)(&"0157#20)#(^.: T3(;#/' (#-05/#09#3"! "1&#. 1+#(-010: "-#T0/(1/" .3# !.)" (5#-015"+). F3D#1#+ "99)(1/#)(&"0157#g (#/') (90) (#-0: T.) (+#"1+"-. .C

0Q?# \$# E5.Y#2)O, : "1#. 1+#_3(&#b(5' , YO!



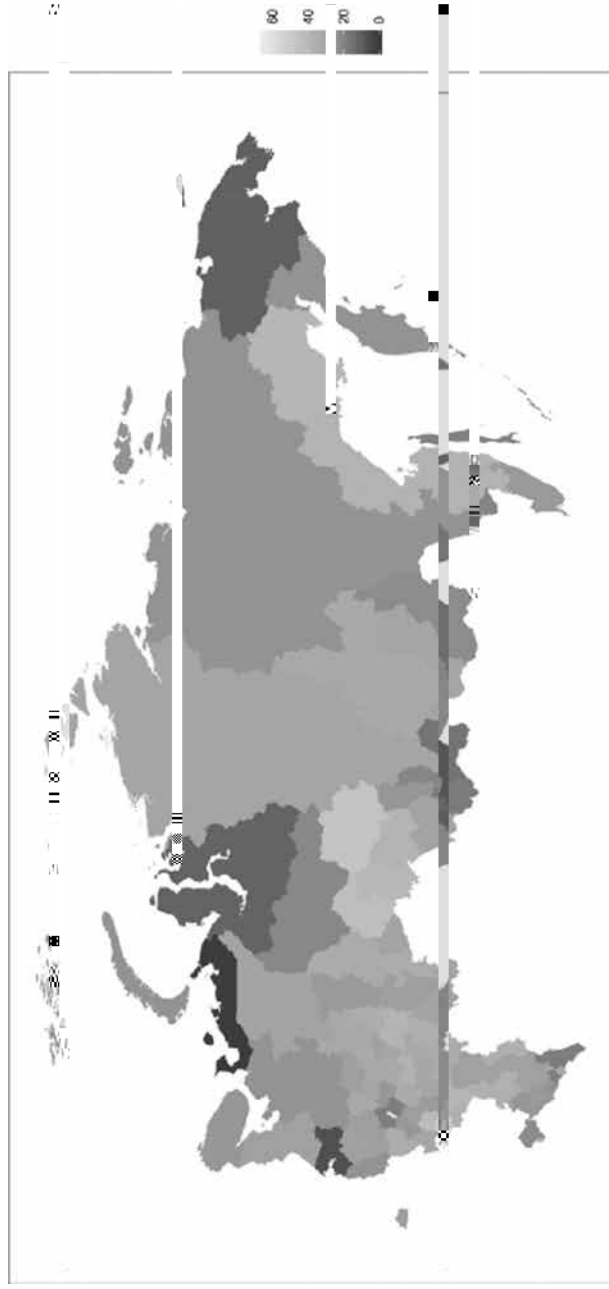
@' (#S, 55°. 1#2(+()./"01# \$# 00I

%0B(! ();#/' (#-,))(1/#9"1. 1-"1D5/(: #09#, 1"! ()5"/"(5#"5#-' . 1&"1&7#

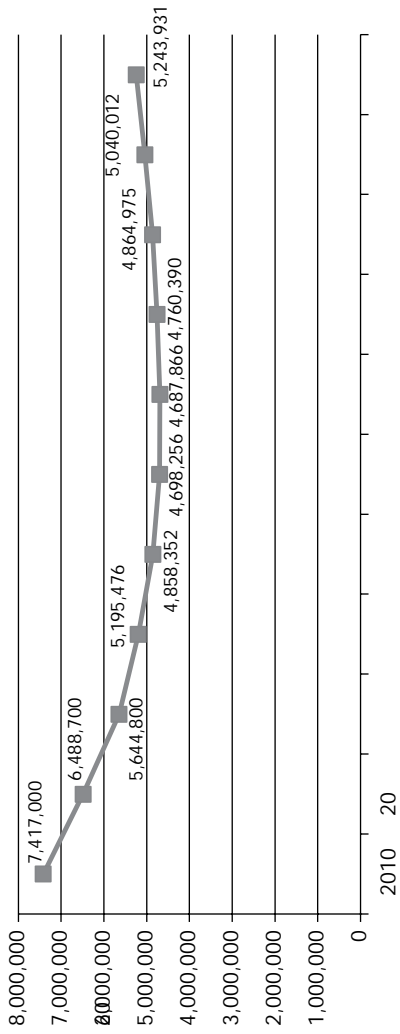


@' (#S, 55°. 1#2(+). /"01# \$# 00H

) (3./"! (#/0#/' (#1, : F()#09#' "&' #5-' 003#&). +, ./ (5#T3. 11"1&#/0#-01/"1, (#



F . 9.10 *The Level of Higher Education Access (Equity) by Regions*
 Source: Federal State Statistics Service, 2014.



@' (#S, 55°. 1#2(+()./"01# \$# 0H0

OHR# \$# E5.Y#2)0, : "1#.1+#_3(&#b(5' , YO!

@' (#.330-./"01#09#/' (#)&"01.3# '&' ()#(+, -./"01#5D5/(: 5#B/' "1#/' "5# /DT03O&D#5, &&(5/5#/' .#T).&: ./"-#9(+().3"5: # "1# '&' ()#(+, -./"01#+0(5# 10/#' (3T#0#-)(./(#!'F).1/#.1+#5/)01&# '&' ()#(+, -./"01#5D5/(: 5#"1#/' (# : .h0)"D#09#)&"0157#E/#-.1#F(#(^T3."1(+##FD#/' (#"1.F"3"/D#09#/' (#9(+().3# -(1/)(#/0#.-/#5&/8+7;#5O3!"1(B#T)0F3(: 5#09# '&' ()#(+, -./"01#5(-/0)7# @' (#1./"01.3#5D5/(: #09# '&' ()#(+, -./"01#5#50#' , &(#.1+##+^!)5(#/' ./# : .1.&"1&#/'#-%/*)52/<,)#5#": T055"F3(7

Z5#'.5#F((1#5' 0B1;#/' (#S, 55".1#' '&' ()#(+, -./"01#5D5/(: #5# '&' 3D# -(1/).3'd(+;#3' 0, &' #' "5#-(1/).3"5: #+0(5#10/#&10)(#)&"01.3#1((+5#.1+# "1/)(5/57#E)0(O!)#01(#09#/' (#).5015#F(' "1+##/' "5F").&: ./"-#-(1/).3'd.C /"01#5#0/(15,)(#/' (#.-/"!(#1+#F.3.1-(+##(!30T: (1/#09# '&' ()#(+, -./"01#5#0/' (#)&"015#%0B(!();#5#B.5#5' 0B1#"1#/' (#T)(! "0, 5#5(-/"01;# /' (#+"99)(1/"./"01#09#/' (#)&"015#1#/' : 5#09#/' (#+(!30T: (1/#09# '&' ()#(+, -./"01#5D5/(: 5#5#!)D# '&' 7#G (#-0, 3+#0F5!) (#/' ./"/#5# '&' ()#/' .1# "1#GO!"(/#": (57#@')(#).#50: (#: (-'.1"5: 5#90)#/' (#)&"015#/O#193, (1-(# /' (#+(!30T: (1/#09#/' (")# '&' ()#(+, -./"01#5D5/(: 57#A.).+0^-.33D;#33# /' (5(#: (-'.1"5: 5#B(O)(#-)(./(+##FD#/' (#9(+().3#&O!)1: (1/a#@' (D#.)(# 10/#/' (#)5, 3/#09#"1"/."!"(5#9)O: #' (#)&"015#/' (: 5(3!(57#@' (#)&"01.3# &O!)1: (1/5#.5#. #), 3(#' .!(#10#"1-(1/"!(5#/O#F(#.-/"!(#"1#/' (#9'(3+#09# ' '&' ()#(+, -./"01#.1+##' .!(#10#)(5T015"F"3"/D#90)#/' "5#5(-/0)7#*(1#+,)"1&#).+-.3#-' .1&(5#"1#/' (#B.D#50-"(D#.1+##/' (#(-010: D#.)(#O)&.1'd(+;#/' (# 5D5/(: #09#1./"01.3K)&"01.3#1/().-/"01#"1# '&' ()#(+, -./"01#&O!)1.1-(# 5/"33#)(: ."15#.3: 05/#, 1/0, -' (+7

@' (#T)0F3(: #5#/' ./#/' (#S, 55".1# : 0+(3#09#T).&: ./"-#9(+().3"5: #)5T01+5# : ."13D#/O#/' (#OFh(-/"!(#09# : ."1/."1"1&#/' (#T03"/"-3#.1+## (-010: "-#, 1"/D#09#/' (#-0, 1/D)7#E/#T.)"/.33D#)(5T01+5#0/#/' (#OFh(-/"!(# 09#/.)&/(+##+(!30T: (1/#09#50: (#)&"015#.1+##.)3D#)(5T01+5#./#33#0# /' (#&O.3#09#9.-"3"/."1#&-0: T(/"01#. : 01&#)&"015#.1+##.-"3"/."1&#/' ("# (-010: "-##+(!30T: (1/7

*!(1#B'(1#1./"01.3# '&' ()#(+, -./"01#T03"-D#+0(5#90-, 5#01#/' (#)O3(# 09# '&' ()#(+, -./"01#"1#)&"01.3#50-.3#.1+##(-010: "-##+(!30T: (1;/#/#

@' (#S, 55". 1#2(+). /"01# \$# 0H=

.-/5#F3"1+3D;#, 5"1&#. #n01 (C5"d(C9"/5C. 33\#T)"1-"T3(:. 1+#5&/8+7;#. !0"+"1&#
3O1&C(/): #!"5"01#. 1+#5/). /(&D7

@' (#)03(#09#+(- (1/). 3"d. /"01#09#T, F3"-#5()!"-(5#"1#"1-)(. 5"1&#O! () . 33#
(99"- (1-D#09#/' (#T, F3"-#5(-/0)#'. 5#F((1#5' 0B1#"1#. #1, : F()09#"1/()C
1. /"01. 3#5/, +"(5#Lb0F0#(#. 37#6HH=N7#` , /#S, 55". #5/"33#' . 5#10/#90, 1+#/' (#
. TT)OT)". /(#B. D#O#+(- (1/). 3"d(#-01/)03#O! ()#/'5# '&' ()(+, -. /"01#5D5/(: #
/O#&"! (#: O)(#)' /5#. 1+#)(5T015"F"3"/" (5#/'O#/' (#)(&"0157

GO: (#)(- (1/#)(90): #. //(: T/5#5' 0B#/' . /#/' (#S, 55". 1#&O! ()1: (1/#
-01/"1, (5#"/5#5(.)-' #90)#/' (#F(5/#": T3(: (1. /"01#09#/' (#"+(. 5#09#T). &C
: . /"-#9(+). 3"5: 7#E1#>J6R;#/' (# 80*G#5/.)/(+##/' (#T)Oh(-/#. ": (+# . /#
(5/. F3"5' "1JJ#)(&"01. 33D#O)"(1/(+#n93. &5' "T\#, 1"! ()5"/" (5;#O)"(1/(+#01#

OHQ# \$# E5.Y#2)0, : "1#. 1+#_3(&#b(5' , YO!

g ./5;#S7#b7#>JJ=7#nZ#40: T.).!"(A)5T(-!"(01#Z5D: : (/)D#"1#2(+).!"0157#
; .J, ,)<J/?)*-);#R7#EPS;#F, ((1\5#[1"! ()5"/D

g ("3();#%7#6HQ07#nb(&.3"d./"01;#*^T()/5(;#. 1+#A.)/"-"T./"01a#G/)./(&"(5# 09#
40: T(15./0)D#b(&"/": ./"01#"1#*+, -./"01.3#A03"-D\7#M+, 45*5<@)/ =&\$75<+%/
G)@-)X#>I#L>Na#>=HK>I I 7

z' ,)!5Y.D.;#*7#>J6J7#m2(+).3"5: #"1#S, 55".\7#g 0)Y"1&#A.T()#<07#<6R6;#4 *2ESW
*G#g 0)Y"1&#A.T()#5()"(5;#805-0B7

z, F.)(!"-';#<7#X7#>JJH7#mS(&"01.3\10(#).d!"/"(##)(&"01.3\1.D.#T03/"Y.#d.#+(5D./"C
3(/(#(' Y010: "-' (5Y0&0#)05/\7#mS(&"01.3#U(! (30T: (1/#. 1+#S (&"01.3#A03"-D#
"1#. #U(-. +(#09#* -010: "-#P)0B/' x7#g+4*+.J/)D+%+, -78).D+m' 4+2<-D-#wE55, (5#09#
(-010: "-#T03"-Dx7#6K>L6K>Na#6?6K6I R7

1. **9A.1** (Continued)

| | T ₁ | S | N ₁ | HEI | N ₁ |
|----------------|----------------|---|----------------|-----|----------------|
| T ₁ | | | | | |
| % | | | | | |
| EB | | | | | |
| T ₁ | | | | | |
| S ₁ | | | | | |
| P ₁ | | | | | |
| (%) | | | | | |
| B | | | | | |
| R | | | | | |
| F | | | | | |
| B | | | | | |
| R | | | | | |
| GRP | | | | | |
| C | | | | | |
| (2014) | | | | | |
| R | | | | | |
| N ₁ | | | | | |

| | | | | | | | | | | |
|--------------------------------------|------------|------|-----------|----|---|----|----|--------|--------|--------|
| Kabardino-Balkar Republic | 0.6 | 0.1 | 137,437.3 | 4 | 3 | 1 | 2 | 17,070 | 14,337 | 2,733 |
| Karachay-Cherkess Republic | 0.3 | 0.1 | 147,396.9 | 2 | 2 | 0 | 7 | 13,125 | 11,094 | 2,031 |
| The Republic of North Ossetia-Alania | 0.5 | 0.05 | 179,992.7 | 8 | 5 | 3 | 3 | 26,094 | 23,477 | 2,617 |
| Chechen Republic | 0.9 | 0.1 | 104,019.2 | 3 | 3 | 0 | 1 | 33,121 | 30,700 | 2,421 |
| Stavropol Krai | 1.9 | 0.4 | 193,489.4 | 17 | 6 | 11 | 34 | 87,676 | 69,852 | 17,824 |





| | | | | | | | | | | |
|---|-------------|-------------|------------------|-----------|-----------|-----------|------------|----------------|----------------|---------------|
| Tyumen Province | 2.5 | 8.5 | 1,453,073.3 | 7 | 7 | 0 | 10 | 65,337 | 63,619 | 1,718 |
| In its part of Khanty-Mansi Autonomous Okrug | 1.1 | 3.1 | 1,761,159.0 | 8 | 5 | 3 | 14 | 27,287 | 25,483 | 1,804 |
| In its part of the Yamalo-Nenets Autonomous Okrug | 0.4 | 4.5 | 2,985,310.6 | 0 | 0 | 0 | 12 | 2,597 | 1,631 | 9,66 |
| Chelyabinsk Province | 2.4 | 0.5 | 284,190.7 | 15 | 11 | 4 | 30 | 110,303 | 97,954 | 12,349 |
| F | 13.2 | 30.0 | 316,380.1 | 96 | 69 | 27 | 124 | 631,346 | 571,420 | 59,926 |
| D | | | | | | | | | | |
| Altai Republic | 0.1 | 0.5 | 184,011.4 | 1 | 1 | 0 | 0 | 3,334 | 3,334 | 0 |
| The Republic of Buryatia | 0.7 | 2.1 | 189,325.7 | 5 | 4 | 1 | 9 | 33,574 | 30,791 | 2,783 |
| Tuva Republic | 0.2 | 1.0 | 149,334.8 | 1 | 1 | 0 | 2 | 4,990 | 4,593 | 397 |
| The Republic of Khakassia | 0.4 | 0.4 | 299,913.3 | 1 | 1 | 0 | 2 | 8,614 | 8,614 | 0 |
| Altai Krai | 1.6 | 1.0 | 187,587.3 | 10 | 7 | 3 | 16 | 60,711 | 51,798 | 8,913 |
| Transbaikai Krai | 0.7 | 2.5 | 209,002.5 | 2 | 2 | 0 | 5 | 26,996 | 25,868 | 1,128 |
| Krasnoyarsk Krai | 2.0 | 13.8 | 498,372.4 | 10 | 9 | 1 | 25 | 89,690 | 80,925 | 8,765 |

(Continued)

B\$%M. 55, /)"/#!'%"#\$-3N9-&, -%#6'<%;"3"-%)

S(&"01.3# ' "&' ()# (+, -. /"01#&)0B/' # "1#101C9(+().3#5/./(5# ' .5#10/#
.//).-/(+#5, 99"- (1/#. // (1/"01#"1#) (- (1/# -01! ()5. /"015# 0! ()# / ()/" .)D#
(+, -. /"01# (^T.15"01#LZ), : ;#P.: 0).1#.1+#G' .!"/#>JJIV# 8.)&"1501#
>J6?.N#0)# + "5-, 55"015# .FO, /# ' "&' #T.)/" - "T. /"01# -0, 1/"(5# .-)055# /' (#
&30F(#L8.)&"1501#>J6?FN7#c(/;#)(&"01.3#5D5/(: 5#.)(#-)" /" - .3#T"33.)5#90)#
/()/" .)D# + (! (30T: (1/#"1#: 05/# -0, 1/"(5;#B/' #0)#B/' /' 0, /# .#9(+().3#
5D5/(: #L4.)10D#(/#.37#>J60N7

%0B#+0#5/./(5#B/' /' 0, /#. #-015"/, /"01.33D#)(&, 3./(+##!"5"01#F(/B((1#
1. /"01.3#.1+#5, F1. /"01.3#&0! ()1: (1/#09#)(5T015"F"3"/D#90)# " &' ()#(+, -.C
/"01#-)(./(#-)(+"F3(#"1-(1/"! (5#90)#30-.3#F,)(. , -)./5#/0#T)0!" +(#' "&' ()#
3(.)1"1Z)#30-.3#)5"+(1/5r#g' ./#5/)./(&"(5#.)(#-0: : 013D#, 5(+#/0#5/((()#
)(&"01.3# + (! (30T: (1/r# Z)(#)(&"01.3#!.). /"015#"1#" "&' ()#(+, -. /"01#
&)0B/' #&)(./()#"1#101C9(+().3#5/./(5r#g' (/ ' ()#.1+#" 0B#+0#T03"/"- .3#
)(&": (5#-01+" /"01#/' (#5). /"9"- /"01#09#" "&' ()#(+, -. /"01#(: F(++(+#"1#
"/5#(^T.15"01r#g' /' #4' "1.;#/' (#' 0: (#/0#01(#09#/' (#3.)&(5/#5D5/(: 5#09#

4' "1.\5# (-010: "-#)(90): 5#"1#/' (#T.5/#0=#D(.)5#" .!(#&(1(./(+ #5T(-./., 3.)#&)OB/' #L u, #>J66N7%0B(! ();#"5#"15"/, /"015#: .D#10/#F(# : ./-' (+#0#/' "5#.-' "((: (1/7#GO: (#(-010: "5/5#F(3"((#/' ./#0)0: #' (# !"(BT0"1/#09#5/.1+.)+#B"5+0: ;#5, -' #.5#/' (#g .5' "1&/01#4015(15, 5#0)# /' (#)(- (1/#(: T)"-.3#3'/(. /,)(#09#-)055C-0, 1/)D#5/, + (5;#4' "1(5(#"15/"C /, /"015#"1#&O! ()1: (1/;#-0)T0)./(#&O! ()1.1-(;#3. B;#.1+#9"1.1-(#300Y# 10/0)"0, 53D#B(.Y#L u, #>J66;#6Jl lN7#b.-Y#09#.#).+"/"01#09#), 3(#FD#3. B# "5#+(T3D#)00/(+#"1#4' "1.\5#&O! ()1.1-(#5/), -/,) (7#*! (1#/' 0, &' #4' "1.# "5# " &' 3D#+(- (1/).3'd(+(-010: "-.33D;#/"#5#1 ("/' ()#.#&)/m\$*)#10)#.#&)/057<+ #9(+).3#5/. / (7#E15/(. +;#-01/(: TO).)D#4' "1.# .5#.#) (&"01.33D#+(- (1/).3'd(+ # . /' 0)"/.). 1#5D5/(: #L u, #>J66N;#B' "-' #) (3'(5# (.' !3D#01#/' (#3(.+)5' "T# 09#/' (#40: : , 1"5/#A.)/D#09#4' "1.#Lz' 0, ;#4' (1#.#1+#b"#>JJ=N7

[1+()# /5# TO3"/"- .3#)(&: (;#"1#/' (#T.5/#/')((# +(-. + (5;# 4' "1.#' .5# + (! (30T(+.#T.)/"- , 3.)#-(1/).3K30-.3#&O! ()1: (1/#) (3./"015' "T#/' ./#5' .) (5# : .1D#-' .) .-/()5/"-5#B'/' #0, 1/)"(5#B'/' #.5D: : (/)"-"#15"/, /"01.3#T./C /()15#Lg ("#>J6=N7#0' (#1./"01.3#&O! ()1: (1/#' .5#3(&"53./"!) (#TOB()5#O! ()# 9"1.1-(;#B' "3(#5, F1./"01.3#&O! ()1: (1/5#" .!(#10#)'&' /#0#)' .5(#) (! (1, (5# FD#/' .^"1&7#0' "5#": T3'(5#.# " &' #3! (3#09#! ())"- .3#9"5-.3#": F.3.1-(;#B' "-' # / (1+5#/#09. !0,)#9"5-.3#-(1/).3'd./"017

@' (#TO3"/"- .3;#(-010: "-.#.1+#9"5-.3#-3": ./ (5#" .!(#T)090, 1+#"193, (1-(5# 01#.#-0, 1/)D#5#" &' ()#(+, -./"01#+ (! (30T: (1/7#_B"1�#/' (#9.-/#/' ./# 4' "1.#"5#10/#.#9(+).3#5/. / (;#.#9(+).3#5D5/(: #09#" &' ()#(+, -./"01#" .5# 10/#F((1#.+0T/(+#"1#4' "1.7#Z--0)+"1�#/' (#-01! (1/"01.3#B"5+0: ;#0# .-' "((#FO#/' #(^T.15"01#.#1+#(^-(33(1-(#"1#.#1./"01.3#5D5/(: ;#.#3.)&(#5/. / (# 5' 0, 3+#. +OT/#.#9(+).3#5D5/(: #09#" &' ()#(+, -./"01;#-' .) .-/()d(+ #FD#.# -3(.)#+"! "5"01#09#/) /" .)D#) (5TO15"F"3"/D#F (/B((1#1./"01.3#.#1+#5, F1./"01.3# &O! ()1: (1/#L43.)Y#6HQON7#b0-.3#&O! ()1: (1/5#5' 0, 3+#F(#/' (#-' (#9T)OC !"+)5#09#/) /" .)D#5()!"- (5#B'/' #9, 1+"1)0: #30-.3#/' #) (! (1, (5;#B' "3(# /' (#1./"01.3#&O! ()1: (1/#5' 0, 3+#5/(())#(+, -./"01#/')0, &' #.#) (&.3./0)D# 5D5/(: #0)"#1/()&O! ()1: (1/.3#-00)+"1./"017#E1#.#/DT"- .3#9(+).3#5D5/(: # 09#" &' ()#(+, -./"01;#0-.3#&O! ()1: (1/5#) (#10/#013D#5(39C-01/."1(+ #F, /# .350#" .!(#.#-0/)."1#3! (3#09#., /010: D#&, .) .1/((+ #FD#/' (#4015"/, /"017# E1#/' (O)D;#/' (#+"! "5"01#09#) (5TO15"F"3"/" (5#.: 01&#'.) "0, 5#3(! (35#09#&O! C ()1: (1/#"5# ("/' ()#-3(.)3D#5/. / (+#"1#/' (#4015"/, /"01#L.5#"1#/' (#- .5(#09# -0: T("/"!) (#9(+).3"5: N#O)#/' ()#(^"5/#-00)+"1./"01#), 3(5#5(/#"1#.#+! .1-(# L.5#"1#/' (#-.5(#09#-OOT()./"! (#9(+).3"5: N7

R6># \$# S01&#g .1&#.1+#A0#c.1&

' "&' 3D#-(1/).3"d(+#T03"/"- .3#.1+#T()5011(3#-01/)035#.#/#' (#1./"01.3#3(! (3;#
.1+#.#)(&"01.33D#+(- (1/).3"d(+#.+: "1"5/)./!" (#.1+#(-010: "-#5D5/(: 7#
`0/' #+(-"5"01#:. .Y"1&#.1+#T03"-D#": T3(: (1/./"01#1#/' (#SUZ#)(&": (:#
9)0: #1./"01.3#5/)./((&-"#55,(5#/0#-01-)/(#30-.3#:.//()5;#.)#+(TT3D#
"193,(1-(+FD#/' "5#-0: F"1./"01#09#T03"/"- .3#-(1/).3"d./"01#.1+#(-010: "-#
+(- (1/).3"d./"017#Lu,#>J66;#6JQ>N

g"/' "1#/' (#SUZ#9): (B0)Y;#/' (#+0: "1.1/#)03(#09#/' (#40: : ,1"5/#
A.)/D#09# 4' "1.#: .Y(5# 4' "1.\5#)(&": (#(55(1"/.33D#+99() (1/#9)0: #.#
9(+().3#5D5/(: 7#2")5/#.1+#90): 05;/#/"5#10/#.9(+().3#5/./(#FD#-015"/, C
/"01#Lg (#>J6=N7#4' "1.\5#4015"/,/"01#5/"T,3./ (5#/' ./#)(&"015#".! (#10#
"1') (1/#T0B()#.1+#/' (")#T0B()#"5#&).1/(+FD#/' (#-(1/).3#.,/' 0)"D7°#
4' "1.\5#)(&": (#"5#10/#.#&)/057<+#9(+().3#5/./(#/"' 0)7#S(&"01.3#3(+.)5#
.)# TT0"1/(+FD#/, TT)C3(! (3#&0! ()1: (1/5#/')0, &' #/' (#40: : ,1"5/#
A.)/D#T()5011(3#5D5/(: ;#10/#FD#)(&"01.3# 3(-/"01#L] , &#.1+#b"F: .1#
>J6=N7#E1#9.-/;#/' "5#+(- (1/).3"d(+#. ,/' 0)"/.).1#5D5/(: #+(T(1+5#-), "-.33D#
01#/' (#3(+.)5' "T#09#/' (#A.)/D;#B' "-' #' .5#5, F5/.1/"3#-01/)035#0! ()#/' (#
T()5011(3# : .//()5#09#5, F1./"01.3#&0! ()1: (1/5;#-0: : .1+5#/' (#3(+C
"1&#(-010: "-#5(-/0)5#.1+#-01/)035#/' (#"+(030&"-.3#.TT.)./, 5(5;#5, -' #.5#
(+, -./"01;#/' (#h, 5/"-(#5D5/(: #.1+#/' (#: .55#: (+.#Lz' 0, #(#.37#>JJ=N7

4.1# .1#SUZ#5/./(#"1-(1/"! "d(#30-.3#.,/' 0)"/"(5#/0#T)0: 0/(#30-.3#
(-010: "-#&)0B/' #.1+#T)0!"+(#T, F3"-#5()!"-(5r#Z3/' 0, &' #9(B#(+, -.C
#

R6R# \$# S01&#g .1&#.1+#A0#c.1&

- .T.F3(#09#: .Y"1&#-)(+"F3(#-0: : "/: (1/5#0#: .1/"1.#.#-()/."1#((3#09#
30-.3#., /O10: D#.1+#/O#1-(1/"! "d(#30-.3#F,)(., -)./57#@' (D#F(3"(! (#/' ./#
4' "1.#"5#-.T.F3(#09#: .Y"1&#-)(+"F3(#-0: : "/: (1/#/O#30-.3#., /O10: D#
+, (#/O#/' (#-0: T("/"O1#F(/B((1#)!)/"-.3#(3'/(#1(/B0)Y5#.1+#4' "1.\5#
3": "/(+#. --(55#0#1./,).3#)(50,)-(57

@' (#SUZ#.)&, : (1/#(: T' .5"d(5#T03"/"- .3#.1+#T()5011(3#-(1/).3'd."/O1#
.1+#.+: "1"5/)./"! (#.1+#(-010: "-#+(- (1/).3'd."/O1#1#4' "1.7#%0B(! ()#;
"/#O! ()300Y5#.10/' ()#T"!O/.3#.5T(-/#O9#/' (#-(1/).3K30-.3#)(3."/O1q/' (#
9"5-.3#-(1/).3'd."/O1#"1#)(- (1/#+(-. + (5;#B' "-' #' .5#-01-(1/)./(+##/' (#
)"&' /5# /O#-033(-/#.1+#+"5)"F, /(#)! (1, (5# /O#/' (#1."/O1.3#&O! ()1: (1/#
.1+#).159())+##/' (#)(5T015"F"3"/D#9O)#5T(1+"1&#/O#5, F1."/O1.3#3!(357

@' (#9"5-.3#)(3."/O1#"5#+(9"1"/(3D#. #Y(D#T.)/#O9#4' "1.\5#: , 3"/3!(3#&O! C
(1.1-(#5/), -,) (7#@' ()(#.) (#+"99)(1/#B.D5#/O#+(5-)F(##/' (#"1/()&O! C
(1: (1/.3#9"5-.3#)(3."/O1#90)#15/.1-(;#z' 0, #>J6>N7#%O)(#B(#"1/)O+, -(#
' (#-01-(T/#O9#/' (#%.<-\$<+%52/45<<)*%/+0/0-.752")25<+%/./1)<X))%#5<+%52/5%/&
.\$1%5<+%52/3+@#% ,)%#/O#+(5-)F(#B.D5#"1#B' "-' #.+: "1"5/)./"! (#+, /D#
.1+#9"5-.3#(^T(1+/,) (#)(5T015"F"3"/D#.) (#+"!"+(+F(/B((1#1."/O1.3#.1+#
5, F1."/O1.3#&O! ()1: (1/7#@' "5#5#.#-0: T)(' (15"! (#D/#5, --"1-/#B.D#O#
-').-/(O)"d(#-(1/).3K)(&"O1.3#9"5-.3#)(3."/O1;#"1/)O+, -(+#FD#T)O)#-0: C
T.)./"! (#3(&.3#5/, +"(5#Lg ("#>JJI ;#>J6=N7

Z--0)+"1&#/O#g ("#L>J6=N;#/' (#"15"/, /"O1.3#T.//()1#O9#9"5-.3#)(3."/O15#
) (9)5#/O#.#T.)/"-.3.)#-0: F"1."/O1#O9#15"/, /"O1.3#).1&(: (1/5#"1#9O,)#
) (57#2")5;#/' (#+"! "5"O1#O9#T, F3"-#5O)! "-(#+, /D#.1+#9"5-.3#(^T(1+/,) (#
) (5T015"F"3"/D#: ."13D#+(5-)F(5#' 0B#: .hO)# .+: "1"5/)./"! (#+, /" (5#.) (#
+"!"+(+F(/B((1#1."/O1.3#.1+#5, F1."/O1.3#&O! ()1: (1/#.1+#' 0B#
' (")#(5T(-/"! (#+, /" (5#.) (#9"1.1-(+7#G(-01+;#/' (#.)).1&(: (1/#O9#9"5-.3#
.330-./"O1#T0B)O#"5#/' (#Y(D#O#.#-0, 1/)D\5#T, F3"-#9"1.1-(#"15"/, /"O17#E/#
) (9)5#/' (#.330-./"O1#O9#)"&' /5#/O#9"5-.3#&."15;#)"&' /5#/O#9"5-.3#3(&"53."/O1;#
)&' /5#/O#3(!D#/.^(5#.1+#F, +&(./)D#)"&' /57#@' ") +;#/' (#.).1&(: (1/5#9O)#
"1/()&O! ()1: (1/.3#).159()#"1+-./(#-01+"/"O15#, 1+O)#B' "-' #, TT)C3(! (3#
&O! ()1: (1/5#).159()#)(50,)-(#/O#30B)C3!(3#&O! ()1: (1/5#/O#9, 39"3#
' (")#(^T(1+/,) (#+, /" (57#2O,)/' ;#-00)+"1."/O1#.1+#+"5T, /(#)(503, /"O1#

.)(#! ()D#: TO)/.1/#90)#5: 00/' #OT()./'O15#09#. #T, F3"-#9"1.1-(#5D5/(: 7#
2(+(). 3#-01&)(55#"1#P(): .1D#"5#/' (#90): .3#-00)+"1./"O1#0)&.1"d./"O1#;
.1+#/' ()(#(^"5/#O/' ()#190): .3#-00)+"1./"O1#: (-' .1"5: 5#F(/B((1#9(+C
().3#.1+#5/./(#&O!)1: (1/57#@' (5(#"15/'/, /"O1.3#.) .1&(: (1/5#.)(#O9/(1#
F.5(+#O1#. #1./"O1\5#-015/'/, /"O1#.1+#' "5/O)D#.1+#: .D#!.)D#.-)055#/' : (7

[5"1&#"15/'/, /"O1.3#.) .1&(: (1/5;#3(&.3#5-' O3.)5#.)(#.F3(#/O#-./(&OC
)"d(#"1/()&O!)1: (1/.3#9"5-.3#)(3./"O15#"1#. +! .1-(+##+(: O-)-"(5#"1/O#
/B0#/DT(5q 1./"O15#B/'/ #.#5D: : (/)"-"#15/'/, /"O1.3#T.//()1#L5, -' #.5#/' (#
[1"/(+#G/./5#.1+#4.1.+.#.1+#-0, 1/)"(5#B/'/ #.1#.#5D: : (/)"-"#15/'/, C
/"O1.3#T.//()1#L5, -' #.5#P(): .1D#.1+#j.T.1N7#@.F3(#6J76#5, : : .)d(5#/' (#
-' .).-/()"5/"-5#O9#FO/' #/DT(5#O9#"15/'/, /"O1.3#T.//()157

E1#&(1().3;#-0, 1/)"(5#B/'/ #'/' (#5D: : (/)"-"#15/'/, /"O1.3#T.//()1#/(1+#
/O#'.!(#.#-3(.))#"1/()&O!)1: (1/.3#+"! "5"O1#O9#+, /D#.1+#)(5TO15"F"3"/D#;
.1+#.# " &' ()#+(&)((#O9#: ./-' #F(/B((1#.+: "1"5)/.!' (#+, /D#.1+#)"&' /5#/O#
9"5-.3#&."157#Z350;#90)#5, -' #.-0, 1/)"(5;#)"&' /5#/O#9"5-.3#&."15#-0"1-+"(#B/'/ #
)"&' /5#/O#9"5-.3#3(&"53./"O1#.1+#5, F1./"O1.3#&O!)1: (1/5#/(1+#/O#'.!(#.#
' "&' #3(! (3#O9#9"5-.3#., /O10: D#.1+#"1+(T(1+(1/#+, /"5;#"1#-0: T.)"5O1#
B/'/ #1./"O15#, 1+()#/' (#.#5D: : (/)"-"#15/'/, /"O1#T.//()17#@.F3(#6JZ76#

R6?# \$# S01#g .1&#.1+#A0#c.1&



-(./ (5#3.) (&#). 159()#T)O&). : : (5#90#) (&"01. 3#(i , 3"d./"01;#F, /;#90)#30- .3# &O! ()1: (1/5;#/' ()(#5#.# #' &' #F.)&."1"1&#-05/#/O#OF/. "1#5, -' #/). 159()57# @' (#0, /-0: (#5#! ()D# " &' #/). 15. -/"01#-05/5;# " &' #, 1- ()/. "1/D#. 1+#) &" + # - (1/). 3#-01/)03#O! ()#/' (#, 5(#09#/) . 159())(+&#). 1/57

Z--0)+"1&#/0#G ("#L>J6=N;#/' (#! ()/'-. 3#9"5-. 3#': F. 3. 1-(#). /(#"1#4" "1.# ./#/' (#1./"01. 3#3(! (3#B. 5#00#T()#-(1/#"1#>J6J;#OR#T()#-(1/#"1#>J66;#00# T()#-(1/#"1#>J6>#. 1+#0>#T()#-(1/#"1#>J60;# ' &' ()#/' . 1#O/' ()#-0, 1/) (5# B/' #. 5D: : (/)"-#"15"/, /"01. 3#T. //()157#2)0: #6HH=#/O#+. /(:#/' (#-(1/). 3# 9"5-. 3#/) . 159()#5' .) (#09#/#. 3#) (&"01. 3#9"5-. 3#(^T(1+/,) (#' . 5#F((1# " &' #. 1+# 9. ")3D#5/. F3(;#F(/B((1#RJ#. 1+#=J#T()#-(1/7#*: T)"-. 3#. 1. 3D5(5#T)O!" + (# . ++/"01. 3#(!"+(1- (#09#/' (#9"5-. 3#-(1/). 3"d./"01#Lj"1&#>JJIV#j". #. 1+#b". 1&# >J66N#. /#1./"01. 3;#T)O!"1-. 3#. 1+#(! (1#30-. 3#3(! (3#Lj". 1&#>JJHN7X()/'-. 3# 9"5-. 3#': F. 3. 1-(#'. 5#+(/): (1/. 3#(99(-/5#01#/' (#T)O!"5"01#09#T, F3"-#5()C !"- (5;#5, -' #. 5#.- (55#/#0#. 1+#/' (#i , 3"/D#09#-0: T, 350)D#(+, -./"01#Lb", # . 1+#] (#>J6=V#b, O#>JJHN7

E1/()&O! ()1: (1/. 3# 9"5-. 3#) (3./"015#-. 1#'. ! (#9.)C)(. -' "1&#": T. -/5#01# .#1./"015# " &' ()# (+, -./"01#&O! ()1. 1-(;#"1+(T(1+(1/#09#/"5#T03"/"- .3# "15"/, /"0157#<0/#. 33#9(+). 3#5/. / (5#90330B#/' (#5. : (#&O! ()1. 1-(#5/), -/.) (7# Z5#+(: 015/). /(+#"1#0/' ()#-' . T/()5#09#/' "5#FOOY;#. : 01&#/DT"- . 3#9(+). 3# 5/. / (5;#1./"015#B/' #5D: : (/)"-#"15"/, /"01. 3#T. //()15#/(1+#/O#90330B#.# -0: T(/"#! (#9(+). 3"5: #: 0+(3#L5, -' #. 5#/' (#[1"/(+ #G/. / (5#. 1+#4. 1. +. N;# B' "3(#5/. / (5#B/' #. 5D: : (/)"-#"15"/, /"01#T. //()1#09/(1#. 550-./ (#B/' #.# -OOT()/'! (#9(+). 3"5: #: 0+(3#L5, -' #. 5#P() : . 1DN7

[1+()#.#-0: T(/"#! (#9(+). 3"5: #: 0+(3;# " &' ()#(+, -./"01#5#: . "13D# /' (#) (5T015"F3"/D#09#T)O!"1-. 3#O)#5/. / (#&O! ()1: (1/5#. 1+#/' (#9(+). 3# &O! ()1: (1/#T)O!"+(5#5, TT3(: (1/.)D#5, TTO)/#L5((#/' (#-' . T/()#01#

R60# \$# S01#&g .1#&.1+#A0#c.1&

., /010: D#. 1+#.#&00+#: ./-' #F(/B((1#.+: "1"5/)./!" (#+, /D#.1+#)"&' /5# /0#9"5-.3#)!(1, (5#2(+).3#&O! ()1: (1/#09/(1#099)5#9"1.1-. 3#5, TT0)/# 90)#(5(.)-' #.1+#5/, +(1/#."+#L5((#/' (#-' .T/)#01#/' (#[1"/(+G/./5N7

E1#/' (#-00T()./!" (#9(+).3"5: #: 0+(3#0F5()!(+#"1#P(): .1D#5/./(# L"(%&)*W#&O! ()1: (1/5#.)(#"1#-' .)&(#09#" "&')#(+, -./"01#3(&"53./"01;# 5, T()!"5"01#.1+#9"1.1-(#L5((#/' (#-' .T/)#01#P(): .1DN7#E1#.).(5#)(i, ")C "1#&1./"01B"+(#-00)+1./"01;#/' ()#.)(#/BO#/#DT(5#09#-00)+1./"01q "1/()5/./(#.1+#F(/B((1#9(+).3#.1+#5/./(#&O! ()1: (1/57#@"#.)(.5#09# -00)+1./"01#.)(#B"+(;#"-1-3, +"1&#.--(55#.1+#.+: "55"01;#.-)(+/"01;# 9, 1+"1Z)#(5(.)-' ;#9, 1+"1Z)#/((: TO.)D#T03"-D#.)(.5#.1+#"1/()C 1./"01.3#.-/"!"(57# Z3/' 0, &' #P(): .1D#"5#. #9(+).3#5/./(#.1+#" "&')# (+, -./"01#"5#/' (#)(5T015"F"3"/D#09#5/./(#&O! ()1: (1/5;#9(+).3K5/./(# -00)+1./"01#"5#"1(!"/.F3(#.1+#T3.D5#.#)(3./!"(3D#5/)01&#)03(7#@'"5#)(3./5# /0#/' (#-015"/, /"01.3#F(3"9#1# 0: 0&(1"/D#09#3!"1&#-01+/"015#B'"-' #)(i, ")5#(i, .3#.--(55#/0#/#/)".)D#(+, -./"01#.-)055#)(&"0157

P(): .1Dv#5D: : (/)"-#"15"/, /"01.3#T.//()1#.350#-.335#, T#/' (#-00)C +1./"01#.TT)0.-' 7#80)(#/' .1#?Q#T()#-(1/#09#/#.#)!(1, (#"5#5'.)(+#FD# 9(+).3#.1+#5/./(#&O! ()1: (1/57#Z#" "&' #3(! (3#09#/#.^#5'.)"1#&-)(./5#-01+"C /"015#90)#-00)+1./"01#F(/B((1#9(+).3#.1+#5/./(#&O! ()1: (1/#)(&.)+"1&# T, F3"-#5()!"-(#T)0!"5"017#E1+(+;#9(+).3#&O! ()1: (1/#-.1#, /"3"d(#3.)&(C 5-.3(#"1/()&O! ()1: (1/.3#/.159()5#90)#)(&"01.3#(i, .3"d./"017#E/#T)0!"+(+# €=#F"33"01#90)#P(): .1Dv##" "&')#(+, -./"01#5(-/0)#"1#>J6R;#B' "3(#/' (# 5/./(#50,)-(5#-01/)"F, /"1&#>076#F"33"01#L@("-' 3()90)!' -0: "1&N7

Z5#: (1/"01(+#.3")#4' "1.#(^"F"/5#-()/."1#9(./,)(5#09#.#-(1/).3"d(+ # 9"5-.3#5D/(: 7#%0B(! ()#/"5#)(&' (#"5#9, 1+.: (1/.33D#+99O)(1/#)O: #.#9(+C ()).3#01(7#4015"+)#T03"-D#+0: ."15#5, -' #.5#"15"/, /"01#.1+#T)O&).: : (# .--)(+/"01;#/.1+.)+5#90)#.--(55#.1+#.+: "55"01;#i, .3"/D#.55,).1-(#.1+#

4' "1.# \$# R6H

O! ()#/(/".)D#+(! (3OT: (1/;#B' "-' #3(+#/O#/' (#9)5/#/(/".)D#(^T. 15"01#"1# /' (#3./(#6H=J57

@' (#5(-01+#T)"0+#B.5#9)0: #6HI H#/O#6HH07#` (/B((1#6HQ6#. 1+#6HH>;# 1./"01.3#&O! ()1: (1/#. +OT/(+#. 1#(-010: "-#. 1+#9"5-. 3#+(- (1/).3"d./"01# 5/)./(&D#L⊔, #>J66N7#@' "5#9"5-. 3#T03"-D#B.5#3"/().)D#/. 153./(+#. 5#n5()!"1&# : (.35#/O#+#99() (1/#+"1 ()5#9)0: #+"99() (1/#TO/57#E/#) (T) (5(1/5#. #! .)./"01# 09#9"5-. 3#-01/). -/"1&# F(/B((1#, TT)C# . 1+#30B)C3(! (3# &O! ()1: (1/57# @. ^#) (! (1, (#B.5#+!" +(+##F(/B((1#-(1/). 3#. 1+#30-. 3#&O! ()1: (1/5#. /#. # 9"^(+#)./"0#. 1+#(. -' #B) (#' (3+#. --0, 1/. F3(#90)#F. 3. 1-"1&#/' (")#F, +&(/57# _1#/' (#01(#' . 1+;#. #5/)01&()#9"5-. 3#"1-(1/"! (#&(1)./(+#FD#/' "5#) (90): # . 1+#: (.5,)(+##"1#/(): 7209#. #' "&' ()#: .)&"1.3#) (! (1, (#)/(1/"01#)./(#90)#)(&"015#": T3"(+#9.5/()#)(&"01.3#(-010: "-##+(! (3OT: (1/7#_1#/' (#0/')# ' . 1+;#+(- (1/).3"d./"01#) (+, -(+##/' (#1./"01.3#&O! ()1: (1∧5#) (! (1, (#5' .) (# . 1+#-0: T)0: "5(+##/5#9"5-. 3#-. T. -"/D#Lj". #(/#. 37#>JJQN7

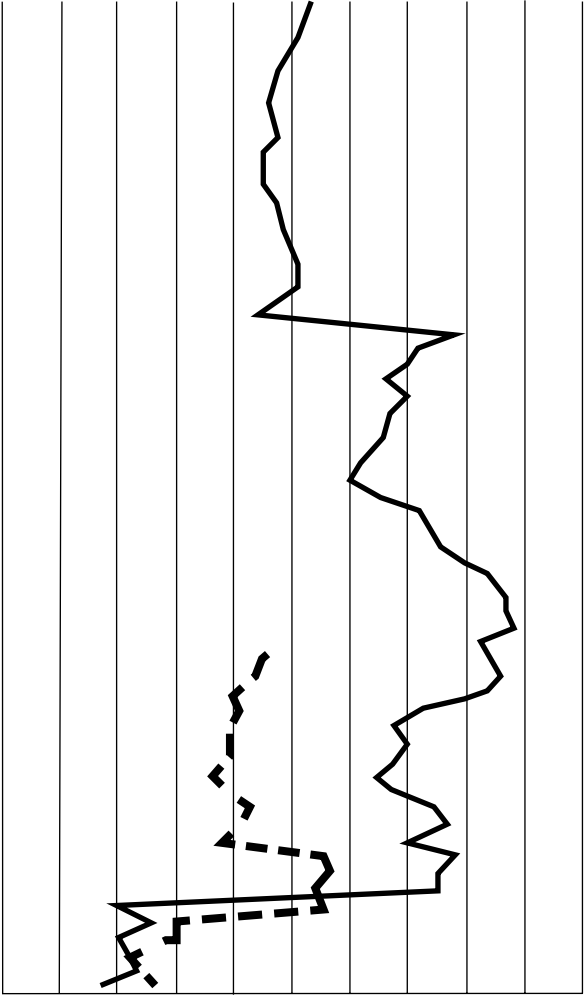
R>># \$# S01#g .1&#.1+#A0#c.1&

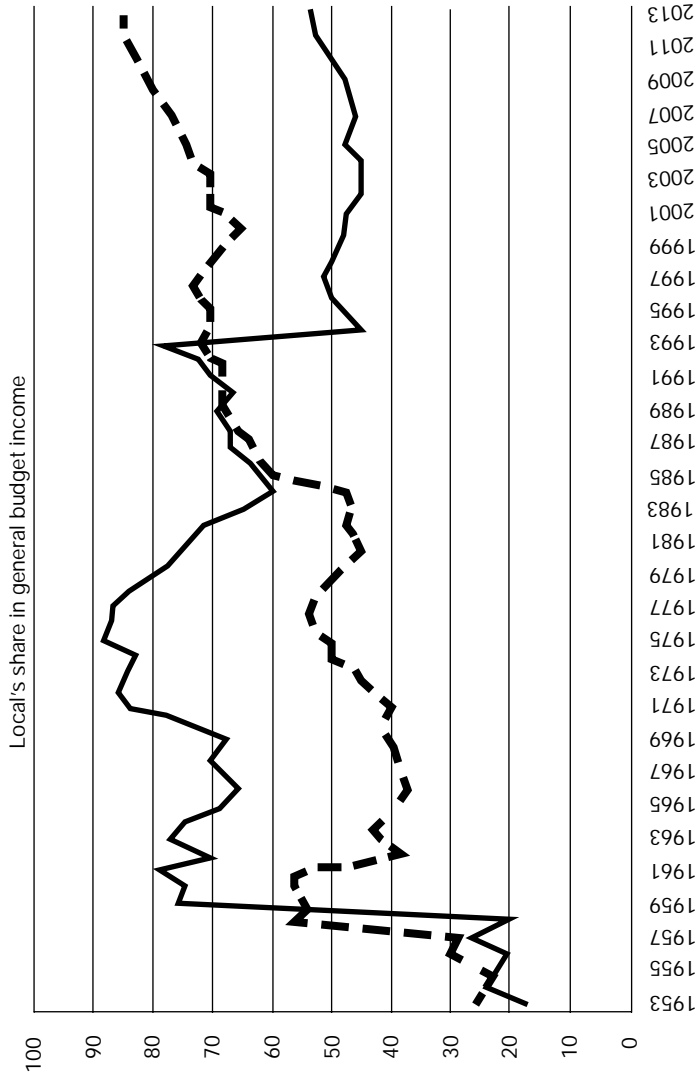
@' "5#)(90): #' .5#' .+#: .1D#301&C/(): #'": T. -/57#E/#-(1/).3"d(5#9"5-.3#)(! (1, (#/O#/' (#-(1/).3#3(! (3#F, /#+(3&./ (5#: .1D#T, F3"-# (^T(1+"/,)(# /5Y5#/O#5, F1./"O1.3#&O! ()1: (1/57#Z9/()#/' (#)90): ;#/' (#-(1/).3#&O! ()1C : (1/5#5' .)(#"1#0/0.3#9"5-.3#)(! (1, (#"1-)(.5(+#.1+##/5#5' .)(#"1#0/0.3#9"5-.3# (^T(1+"/,)(#+(-)(.5(+#L5((#2"&,) (5#6J76#.1+#6J7>N7

@' (#-(1/).3"d./"O1#09#)(! (1, (#.1+##/' (#+(-1/).3"d./"O1#09#T, F3"-# (^T(1+"/,)(#.350#-)(./ (5#.1# .5D: : (/)D#F/ (B(1#1./"O1.3#.1+#5, FC 1./"O1.3#&O! ()1: (1/#B' '-# #9"5-.33D#-0: T)0: "5(5#30-.3#. , /' O)/D\5# -.T.-"/D#90)#T)O!"+"1&# '&' ()#(+, -./"O1#5()!"-(5#/O#/' (")#-015"/, (1-"(57

[1(^T(-/(+3D;#/' (#T)0-(55#09#9"5-.3#-(1/).3"d./"O1#0! ()3.TT(+##B'/' # /' (#&)(./#/)"/)D#(^T.15"O1#1#4' "1.7#@' "5#(^T.15"O1#B.5#0)-' (5/)./(+## FD#/' (#5/./(#B'/' #' (#.55"5/1-(#09#/' (#.90): (1/"O1(+##-0: : .1+"1&# ' ('&' /5#5/)./(&D7#2)0: #6HHO#/O#>J60;#/' (#/0/.3#1, : F()09# '&' ()#(+, -.C /"O1#"15"/, /"O15#"1#4' "1.#"1-)(.5(+9)0: #6;J?=#/O#>;RH67#E1#>J6R;#/' (# : .hO)/D#)(#)(&O1.3#0)#30-.3#T, F3"-#-033(&(5#.1+##, 1!")5"/" (5#L6;??#6#0)# ?IM#0)#T)! ./ (O1(5#L161#0)#>HMN;#B'/' #.#5: .33#:"10)/D#, 1+())#/' (# +)(-/#-01/0)3#09#-(1/).3#&O! ()1: (1/#L660#0)=MN7#A)O!"1-".3#&O! ()1C : (1/5#.)(#: .1+./(+##O#T)O!"+(#OT()./"O1.3#F, +&(/#0)#.99"3"/(+##15"/, C /"O15#L S 8 `#6>;JJ#T()#5/, +(1/#"1#>J6J#01B.)+;#8"1"5/)D#09#'+, -./"O1# .1+## 8"1"5/)D#09#2"1.1-(#>J6JN7#@' (#-(1/).3#&O! ()1: (1/#T)O!"+(5#)5(.)-' #9, 1+"1&#.1+#9"1.1-".3#."+#90)#(3"&F3(#9, 33C/" : (#5/, +(1/57

@' (#-0: : .1+"1&# ('&' /5#90): #09#-(1/).3K)(&"O1.3#)(3./"O15#"5#.# 5/)./(&D#0#T)O!"+(#)(&"O1.3#&O! ()1: (1/5#(10, &' #"1-(1/"! (5#/O#&)OB# /' (")#30-.3#/()"/)D#5D5/(: 5#B' "3(#: ."1/."1"1): #- (1/).3#-01/0)3#0! ()# /' (#' "&' ()#(+, -./"O1#5(-/0)7#Z5#: (1/"O1(+##.)3")#/' (#-0: : .1+"1&# ' ('&' /5#5/)./(&D#'.5#/B0#-0: T01(1/5q/' (#-0: : .1+"1&# ('&' /5#09# ' '&' ()#(+, -./"O1#"15"/, /"O1#"1).)-' D#.1+##/' (#-0: : .1+"1&# ('&' /5# 09#/' (#: (-' .1"5: 5#09#"1/)! (1/"O1#Lg .1&#>J6R.N7#20)#-(1/).3#(3"/(5;# /' (#Y(D#T)"1-"T3(#"5#/O#Y((T#-0)(#)50,)-(5#.1+#5(3(-/"! (#"15"/, /"O15#"1# /' (#' .1+5#09#/' (#-(1/).3#&O! ()1: (1/#.1+#3(!"1&#/' (#)5#/O#)(&"O1.3# &O! ()1: (1/57





2.55, /)"/#'\$%"#\$-3'.A'\$"#\$%&%) *+,-./"/3- "-*-. /,1'\$"%&, &+\$6

G"1-(# : "+C6HQJ5;#/' (#5/./ (#' .5#5, --(559, 33D#": T3(: (1/(+#.#5())(5#O9#) (90): 5#"1/(1+(+#/O#-)(./(#/' (#-0: : .1+"1&#' ("&' /5#O9#"15"/, /"O1.3# ' "().)-' D7#G(3(-!'! (#T, F3"-#90,)CD(.)#"15"/, /"O15#)(: ."1#, 1+())#/' (# +")(-/#-01/)O3#O9#-(1/).3#., /' O)"#(57#@' (5(#-(1/).33D#: .1.&(+#"15"/, C /"O15#.)(#T)O)"#/'d(+#"1#/' (#O!().33#' "&' ()#(+, -./"O1#5D5/(: #.5#(3'/(# 1./"O1.3#)(5(.)-' #"15"/, /"O157

G(!().3#T03"-D#: (.5,)(5#B()(#-.)")(+#0, /#/O#. -' "(! (#/' "5#&O.37#@' (# -(1/).3#&O! ()1: (1/#5/)"-/3D#-01/)O33(+##' (#(1)O3: (1/#&)OB/' #"1#1./"O1.3# , 1"! ()5"/" (5#. 1+#.33OB(+##)(&"O1.3#, 1"!)5"/" (5#/O#.F5O)F#/' (#: .55#O9#1(B# 5/, +(1/5#-0: "1&#"1/O#/' (#5D5/(: #.5#"/#(^T.1+(+##).T"+3D#"1#/' (#3./(#6HHJ5# .1+##/' (#9)5/#+(-.+(#O9##' (#>JJJ57#@' "5#(1.F3(+##(3'/(#"15"/, /"O15#/O#90-, 5# 6(O#)10.50010.554367.7016Tm/TT42TmO(")

R>?# \$# S01&#g .1&#.1+##A0#c.1&

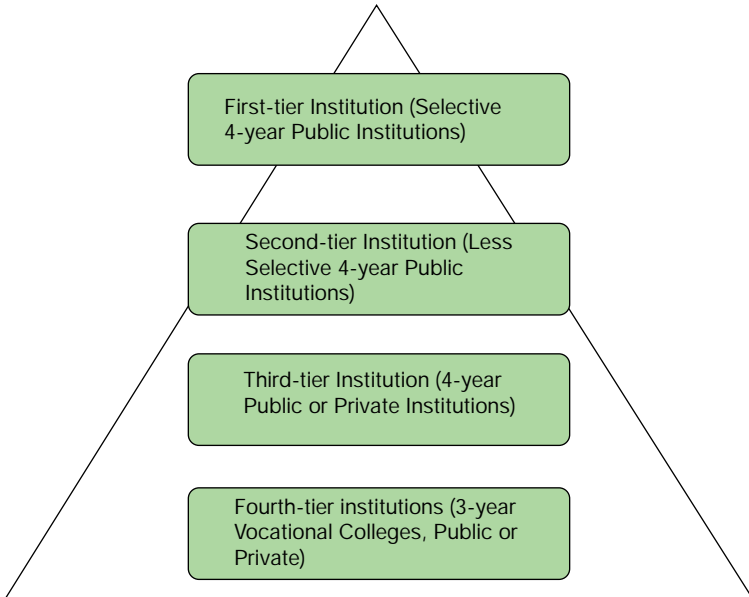
G"1-(#/' (#3./(#6HHJ5;#/' ()(#' .!(#F((1#: .1D#)(90): 5#/O#)(50,)-(# .330-./"01#1#/' (#/()/".)D#5(-/O)7#@' (#5./(#' 5#.330B(+##/()/".)D#15"/, C /"015#: O)(#3((B.D#1#9, 1+##). "5"1&#F, /#/.Y(1#: (.5,)(+##/(T5#1#.330B"1&# T)"!./(#15"/, /"015#/O#T)03#9()./(#E/#' .5#+(! (30T(+##: O)(#-O: T)(' (15!" (#), 3(5#09#i , .3"/D#.55,). 1-(;#)/(."1(+##-01)03#O!)#.-.)+/"01#09#90,)C D(.)#15"/, /"015#.1+##&).+, ./(#T)O&): : (5;##+(! (30T(+##9, 1+"1&#)(&": (5# 90)#! .)"0, 5#T)Oh(-/CF.5(+##1"/". /"!(5;#.1+##)/(."1(+##/5# .1+5C01#.TT)O. -' # /O#T)5011(3#:. 1.&:((1/q"1#(99(-;/#/' (#-(1/).3#., /' O)"D#'. 5#: ."1C /."1(+##+)(-/#-01)03#O!)#)"1&#.1+##)"1&##+(-"5"015#1#/' (#, 1!")5"/"57

O&#/,/"8%)"/3--*-. /,1)"AA%&%/-, -. /

@' (#+)(-/#-015(i, (1-(#09#/' (#": T3:((1/./"01#09#/' (#-O: : .1+"1&# ' ('&' /5#5)/.(/&D#' .5#F((1#. #T)O-(55#09#O)&. 1"d(+##15"/, /"01.3#+##99)C (1"/./"01;#1-3, +1&#. +: "1"5)/.!"(##+##99)(1"/./"01;#9"1. 1-. 3#+##99)C (1"/./"01;#9, 1-/01.3#+##99)(1"/./"01#. 1+##+(O&).T" -##+##99)(1"/./"01# Lg.1&#>J6RFN7#@' (#-O: : .1+"1&# ('&' /5#5)/.(/&D#' .5#(13.)&(+##/' (# &.T#F(/B((1#15"/, /"015#T05"/"01(+##/##+##99)(1/#/")5#1#/' (#15"/, /"01.3# ' "().)-' D7

Z+: "1"5)/.!"(##+##99)(1"/./"01#)(9)5#/O#/' (#-)(./"01#09#.#5/)-/#15"/, C /"01.3# "().)-' D#FD#O)&. 1"d./"01.3#.99"3"/"017#@' "5#" "().)-' D#+(/(): "1(5# (. -' #15"/, /"015#.-.(55#/O# " &' #i , .3"/D#9)(5' : (1#1#/' (#)(-), /": (1/# T)O-(557#@' (#: 05/#5(3(-/!"(#O)#' " &' C/")#15"/, /"015#(-), /"#9)5#.#9/()# /' (#.110, 1-((1/#09#/' (#<./"01.3# 4033(&(#*1/). 1-(#*^.: "1./"01# 5-0)(5#1#j, 1(;#. 1+##/' (#3(.5/#5(3(-/!"(#O)#30BC/")#15"/, /"015#/.Y(##/' (#)5#B"/' #30B(5/#5-0)(57#Z--0)+1&#/O#bOD.3Y.;#G01&#. 1+##g ("#L>J6>N;# /' (#9)5/#O)#/' (# ' &' (5/#/")#09# " &' ()#(+, -. /"01# "().)-' D#-015"5/5#09#/' (# : 05/#5(3(-/!"(#T, F3-#90,)CD.)#, 1!")5"/" (5#/' (#3(55#5(3(-/!"(#90,)CD.)# T, F3-#, 1!")5"/" (5#-O: T)"5(##/' (#5(-01+##/")#/' (#/' ")+##/")#-O: T)"5(5#09# 5/"33#3(55#5(3(-/!"(#90,)CD.)#T, F3-#O)#T)"! ./(#, 1!")5"/" (5#L09/(1#-. 33(+## "1+(T(1+(1/#-033(&5N;#. 1+##/')(CD.)#! O-./"01.3#15"/, /"015#.)#/' (# 90,)/' #. 1+##30B(5#/#/")#L5((#2&), (#6J7ON7

E1#>J60;#/' (#9)5#/' ()#09#/' (#' "().)-' D#"1-3, (+5#10# , 1!")5"/" (5# .99"3"/.(/+##B"/' #/' (#8"1"5/)D#09#*+, -. /"01#. 1+##O/')#3"1(#: "1"5)/" (5;#66># nA)Oh(-/#>66#15"/, /"015#. 1+##50: (#3(. +1&#T)O!"1-. 3#15"/, /"015#L5((# @.F3(#6J7>N7#@' (#5(-01+##/")#-015"5/5#09#RJ#15"/, /"015#, 1+()#O/' ()#

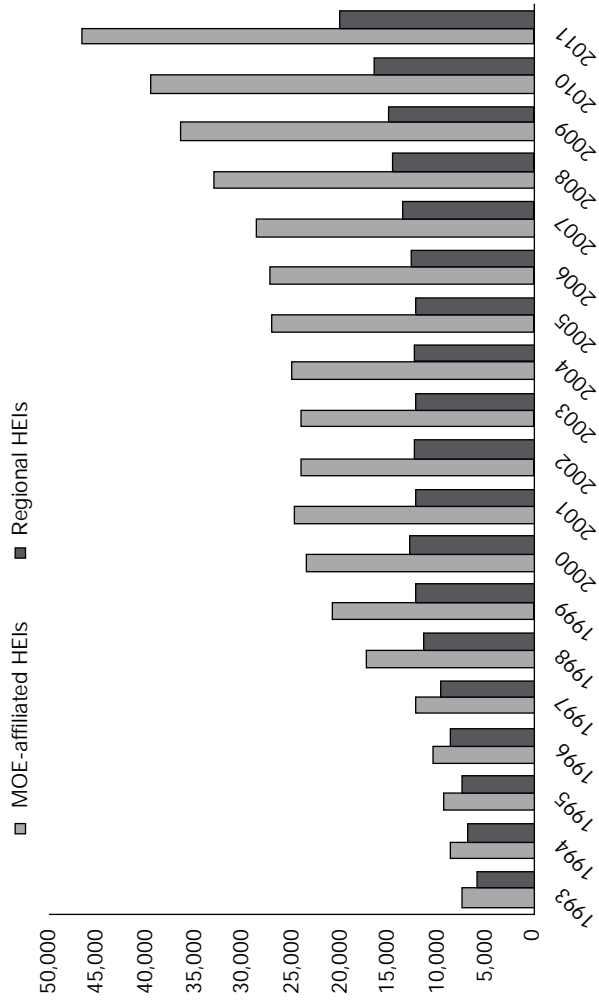


F. 10.3 Four Tiers of the Higher Education Hierarchy in China

Source: Authors' summary based on Loyalka et al. (2012).

-(1/).3#: "1"5/)"(5#. 1+#. &(1-"(5#. 1+#: 0)(#/'. 1#?JJ#15"/, /"015#.99"3"./(+# B"/' #T)0!"1-".3#&O! ()1: (1/57#@' (#/' ") +#/"()#1-3, +(5#1 (.)3D#RJJ#T)"! ./(# 90,)CD(.)#-033(&(5;#. 1+#/' (#90,)/' #/")#-015"5/5#09#0>=#T)"! ./(# . 1+#HH?# T, F3"-#/')((CD(.)#! 0-. /"01.3#-033(&(57

Z10/' ()# .5T(-/#09#+ "99() (1/" ./"01#"5#9"1. 1-(7#P). 1/5#90)# (^-(33(1-(#



F. . 10.4 Expenditure per Student in Centre- and Region-affiliated Institutions
 Source: Educational Statics Yearbook of China (various years); China Compendium of Statistics (1949–2008).

8"15/)D#09#*+, -. /"01#'.5#&."1(+##/)(1&/'(1(+##.+: "15)/.!'(#, /' O)C
"/D#O!)#5-"(1/"9#-#)(5(.)-' #.1+##+(! (30T: (1;/#.301&5"+(##/'(#8"15/)D#
09#G-"(1-(#.1+##@(-' 1030&D7#g .1&#L>J6RFN#.&,(5#/'./#/'(#8"15/)D#
09#*+, -. /"01#'.5#90): (+##.#T03"/"-.#-0.3"/"01#B"/' #3"/(#"15"/, /"015#/O#
.+!0-./(#/'(#-015/), -/"01#09#B0)3+C-3.55#, 1"!)5"/"5#Lg 4 [5N#1#4' "1.7#
E#-015/.1/3D#: 0F"3"d(5#T03"/"-.#.1+##50-" .3#5, TTO)/#90)#/' "57#_1-(#/'(#
T)Oh(-/CF.5(+##9, 1+"1#&: (-'.1"5: #L(7&7;#A)Oh(-/#HQ=#.1+##A)Oh(-/#>66N#
-.: (#"1/O#F("1&#&O!)O: (1/#5, TTO)/#90)#"1+"!"+. .3# "15"/, /"015#B.5#
10#301&()#T): .)"3D#+(/O): "1(+##FD#/' (")#0B1#T(O)90): .1-(5#0)#O, /"1(#
F, +&(/.)D#.#TT)OT)". /"015;#F, /#/#+(T(1+(+##01#/' (#5, --(55#0)#9."3,)(#09#
/' (#: 0F"3"d. /"01#3(+##FD#/' (#8"15/)D#09#*+, -. /"01#/O#5(-,)(#.1+##) (/."1#
/' (5(#' , &(#-./(&O)"-.3#&).1/#T)Oh(-/5#T3, 5#/' (#-033(-!"(#T(O)90): .1-(#09#
(3"/(#, 1"!)5"/"57#@' (#T03"/"-.#-0.3"/"01#5#/' (#: .h0)#50,)-(#09#5, TTO)/#
90)#9, 1-/"01.3#+##99() (1"/. /"017

2"1.33D;#+(: O&).T' "-##"99() (1"/. /"01#)(9)5#/O#/' (#.330-. /"01#09#/.3(1/5#
.: 01&#(/)"/.D#"15"/, /"0157#4' "1.#)("1/)0+, -(+##.#, 1"9#(+##1. /"01B"+(#
-033(&(#(1/).1-(#(^.: "1. /"01#1#6HI 17#805#/#(/)"/.D#"15"/, /"015#)(3D#
01#/' "5#5/.1.+.)+d(+##/(5#.#5#/' (#503(-)"/O).#90)#.+: "55"017#E1/()5"/1&3D#
4' "1(5(#-033(&(5#.#1+##, 1"!)5"/"5#-.110/#-O: T(/(#9)(3D#90)#/.3(1/(+##
' "&' #5-' 003#&).+, ./ (57#* .-' #D(.);#/' (#U(! (30T: (1/#.1+##A3.11"1&#
U!"1"5"01#09#/' (#8"15/)D#09#*+, -. /"01#'.330-. /"01#(1)03: (1/#i, O/.5#90)#
(.-' #T)O!"1-(#.1+##/O&(/')#B"/' #/' (#U(T.)/: (1/#09#*+, -. /"01#1#
(.-' #T)O!"1-(#.#.110, 1-(5#/' (#)(-), '/: (1/#"/)5#90)#T, F3"-#T05/5(-C
01+.)D#"15"/, /"0157#@' (#8"15/)D#)(/."15#T0B()#O!)#/' (#.330-. /"01#
09#01(#09#/' (#: 05/#50, &' /C.9/O)#(50,)-(5#1#4' "1(5(#50-"(Dq .--(55#
/O#(3"/(#)(5(.)-' #, 1"!)5"/"57#@' (#/')#5D5/(: #&, .).1/(#5#/' ./#1. /"01.3#
, 1"!)5"/"5#.#3B.D5#)(-), /##/' (#: 05/#.3(1/(+##/5, +(1/5#.#1+##. "1/. "1#/' (#)
) (T, /. /"01.3#).1Y"1&57

@' (#)"5(#09#/' (#-O: .: .1+"1&# ("&' /5#5/)./(&D#.1+##/' (#5, F5(i, (1/#O)&.1"C
d. /"01.3#+##99() (1"/. /"015#.) (#)(- (1/#T' (10: (1.#.- -O: T.1D"1&#/' (#2"5-.3#
4(1/).3"d. /"01#S(90): #09#/' (#: "+C6HHJ57#E9#01(#/Y(5#.#301&()#/' (#
' O)"d01;#/"5#OF!"O, 5#/' ./#4' "1.#.5#(^T)"(1-(+##.#3(5#/')(#/O)"/.D#
(^T.15"015#5"1-(#6HRH7#* .-' #09#/' (5#(^T.15"015#B.5#-01+/"01(+##FD#
/' (#-(1/).3K)&"01.3#)(3. /"01#./#/' ./#/' : (7

@' 05(#5, --(55"! (#(^T.15"015# '&' 3'&' /#)' (#TOB()#09#/' (#, /' 0)')'.1#)(&#': (#/O#: OF"3"d(#30-.3#&O!)()1: (1/5#/O#+(! (30T#)(&"01.3#/)')'.D#5D5C /(/: 5;#T03"/"- .33D#.1+#(-010: "- .33D7#Z/#/' (#5.: (#/' :;#/' 05(#(^T.15"015# , 1.!0"+.F3D#)!(.3#/' (#3: "/./'015#09#/' (#-.T.-"/D#09#.9#5-.33D#-(1/).3'd(+ # 5/./(#/O#-01/)03#)(&"01.3#!' .)'./'015#1#/'(): 5#09#T)O!"5"01#.1+#i , .3"/D#09# /()/' .)D#(+, -./'017#E1#0/' ()#1./'01.3#5D5/(: 5;#/' (5(#)(&"01.3#!. .)'./'015# -.1#F(#.++) (55(+ #(' /' ()#FD#9(+).3C5/./(#-00)+".1./'01#1#/' (#-00T()./'! (# 9(+).3'5: #5/./(#)0#FD#/' (#+(-1/).3'd./'01#09#) (5TO15"F3"/D#/O#30B()C 3!(3#&O!)()1: (1/#: T3"(+#FD#/' (#-0: T(/'/'! (#9(+).3'5: #: O+(37

G"1-(#6HRH;#/')((#: .h0)#' "&' ()# (+, -./'01# (^T.15"015# 0--)) (+#"1# 4' "1.cq /' (#3./(#6H=J5;#/' (#(.)3DC6HQJ5#.1+#/' (#3./C6HHJ5#l.c.1&#>J6RN7

E1#/' (#(.)3D#6H=J5;#/' (#1./'01.3#&O!)()1: (1/#. +OT/(+ #/' (#GO!"(/# [1"01#: O+(37#E/)(5/), -/), (+ #/' (# /()/' .)D#5(-/O)#FD# -01503"+./'1#& -0: T)(' (15"! (#, 1"!)5"/" (5#1/O#5T(-.3'd(+ #15"/, / (5;#)'. "1"1+, 5/)DC 0)"(1/(+ #/ .3(1/5#.1+#T)O!" +1&#', : .1#) (50,)-(5#90)#/' (#"1+, 5/).3'd.C /"01#T)O-(557#805/#/)'.)D#15"/, /"015#B() (#-(1/).3'd(+ #/O#/' (#1./'01.3# &O!)()1: (1/#.1+#0330B(+ #.#, 1"9" (+ #-,))"- , 3, : 7#%0B(! ()#;+,)"1&#/' (# P)(./#b(.T#20)B.)+ #: 0! (: (1/#"1#/' (#3./C6H=J5;#4' .): .1# 8.0# +(-1/).3'd(+ #/' (#-01/)03#09# " &' ()#(+, -./'01#0#)(&"01.3#&O!)()1: (1/57# @' (#1, : F)09#15"/, /"015#1-)(.5(+ #)O: #>J=#1#6HRH#/O#>>H#1#6H=I# .1+#0! ()#6;>JJ#1#6H?J#L5((#2"&,) (#6J7=N7# 805/#09#/' (5(#15"/, /"015# B() (# .99"3"/(+ #/O#)(&"01.3#&O!)()1: (1/57#@' (#9)5/#B.!(#09#(^T.15"01# 5)!(+ #/' (#1./'01.3#T)O)" /D#09#.1# --(3/)(+ #1+, 5/).3'd./'01;#.1+#/# B.5#5, Fh(-#/O#/' (#15/), : (1/.3#)./'01.3"/D#T)!(."3(+ #./#/' ./#': (#Lz' .1# .1+#4' (1#>J6ON#E/#B.5#.350#/' (#) (5, 3/#09#. #T03"/"- .3#-0: T(/"01#.: 01&#)(&"01.3#3(+)5# (1-0,).&(+ #FD#4' .): .1# 8.0# , 1+)#/' (#530&.1#09# nT)O: 0/"1&#F0/' #- (1/).3#.1+#)(&"01.3#1-(1/"! (57

@' (#4, 3/), .3#S(!03, /"01#: .)Y(+ #/' (#F(&"11"1	#.10/' ()#+(-1C /).3'd./'01#: 0! (: (1/7#@' (#-(1/).3#&O!)()1: (1/#.1+(+ #O!)()#1(.)3D#.33# "/5#.99"3"/(+ # -033(&(5#.1+#, 1"!)5"/" (5#O#30-.3#&O!)()1: (1/5#1#6H??#.1+# .9/()B.)+5#-305(+ #/' (: #+OB1#Lg .1&#>J6=N7#@' (#1, : F)09#15"/, C /"015#+(-3"1(+ #)O: #0! ()#6;>JJ#1#/' (#(.)3D#6H?J5#/O#).0, 1+#RJJ#1# /' (#3./C6HIJ57



@' (")#(5,))(-"01#-.: (#"1#/' (#5(-01+#B.!(#09#(^T.15"01#"1#/' (#
(.)3D#/O#/' (#: "+C6HQJ5;#.9/()#/' (#)(OT(1"1	#/' (#<."01.3# 4033(&(#
1/).1-(#^.: "1./"01#"1#6HI I7#@' (#1, : F()#09#/()/".)D#"15"/, /"015#
F0, 1-(+#F.-Y#/O#O! ()#6;JJJ#T)"0)#/O#/' (#5/), -/,).3#)(90): 5#/' ./#F(&.1#

ROR# \$# S01&#g .1&#.1+#A0#c.1&

/' ./#01C&O"1	"5-.3#-(1/).3"d./"01#)(90): #+(T)"! (+#30-.3#., /' 0)"/"(5#09#
/' (")#9"5-.3#-.T.-"/D#.1+#"1-(1/"! (#90)#/()/".)D#(^T.15"017#@' (#3.-Y#09#
"1-(1/"! (#.1+#-.T.-"/D#" .5#F((1#)(-01-"3(+FD#/' (#-0: : .1+"1&#' ("&' /5#
5/./(&D7#@' (#-(1/).3#., /' 0)"/D#.330B(+30-.3#&0!)1): (1/5#: 0)(#3((B.D#
"1#9, 1+)."5"1Z#)(&"01.3#(^T.15"01#" .#T)"! ./(#.1+#T, F3"-#-' .11(357

2")5;/#T)"! ./(#9"1.1-"1&#B.5#3(&"/": "d(+#, 1+()#/' (#T)"1-"T3(#09#-05/#
5' .)"1�)#-05/#)(-0!)D#L8"1#6HHQN7#@' (#8"1"5/)D#09#*+, -./"01#" .+#
T(): "//(+30-.3#-033(&5#.1+#, 1!")5"/"(5#/O#-' .)&(#/, "015#.1+#9((5#'. .+#

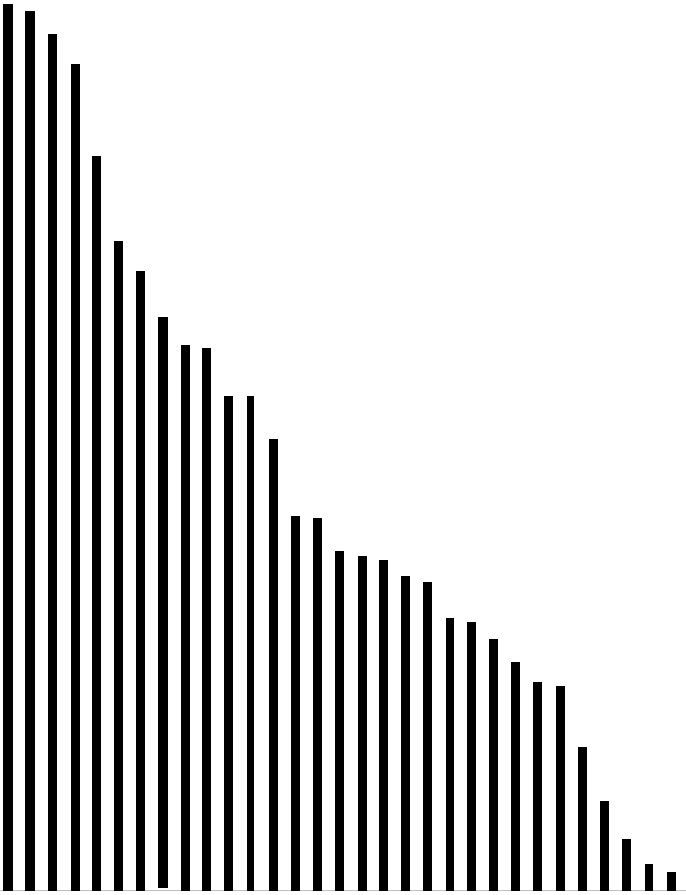
R0?# \$# S01&#g .1&#.1+#A0#c.1&

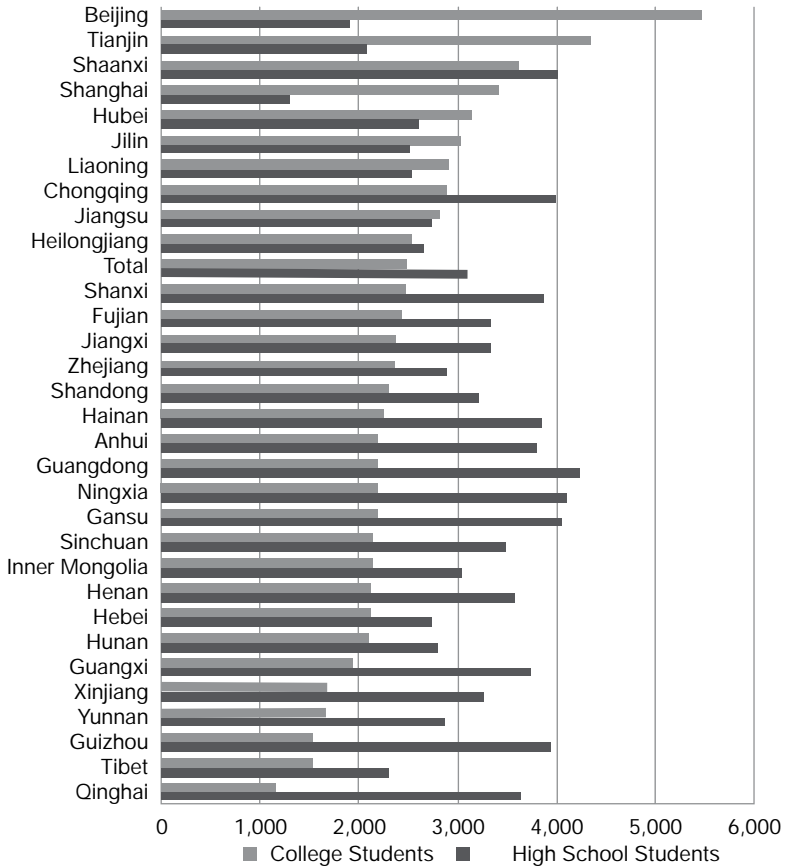
@' (#5"d(#.1+#5/), -/,)(#09#)(&"01.3#/(/".)D#5D5/(: 5#)(93(-/#/' (#, 1(i, .3# + "5/)F, /"01#09#B(.3/' #L5((#@.F3(#6JZ7>N7#@' (#1, : F()#09#' '&')(#(+, C -./"01#15"/, /"015#5#' '&' #'1#+(! (30T(+#)(&"015#5, -' #.5#j".1&5, #L6=?N;# G'.1+01&#L60HN#.1+#P, .1&+01&#L60QN;#F, /#30B#"1#3(55#+(! (30T(+ #)(&"015#L?#"1#@"F(/;#H#"1#F "1&' ."#.1+#6?#"1#<"1&^".N;#B"/' #.1#!.!)&.(# 09#QJ#T()#T)0!"1-(#"1#>J607

@' (#(1)03: (1/#5"d(#09#)(&"01.3#/(/".)D#5D5/(: #.350#!.)"5#L5((#2"&,) (# 6J7?N7#Z: 01&#.33#T)0!"1-(5;#@"F(/#'.+##/' (#5: .33(5/#5D5/(: #B"/' #00;R=># (1)033(+5#/ , +(1/5#"1#>J6>#>#T)##-(1/#09##/' (#/0/.3#(1)03: (1/#"1#j".1&5, # B'"-' #' .5#67?1# : "33"01#5/, +(1/57#8.1D#T)0!"1-(5#(1)033(+ #: 0) (#/' .1# 01(#: "33"01#5/, +(1/5;#5, -' #.5#%(F(";#j".1&5, ;#Z1' , ;#G'.1+01&#% (1.1;# % , F(";#% , 1.1;#P, .1&+01&#G"-', .1# .1+#G' . .1^7

S(&"01.3#.--(55#/0#T)"!./(#-033(&(5#.350#!.)"5#5, F5/.1/" .33D7#A)"!./(# "15"/, /"015#01#.!)&.(#.--0, 1/#90)#>R#T()##-(1/#09#"15"/, /"015#.#T)OC !"1-.3#3!(37#g' "3(#@".1h"1;#E11)#801&03".#P, .1&^";#P, "d' 0, #.1+# @"F(/#'.+ #10#T)"!./(#, 1"!)5"/(5#"1#>J6>#>#T)"!./(#-033(&(5#930,)"5' (+ "1#G'.1^#L0HMN;# ("h"1&#LRRMN;#G'.1&' ."#LI?MN#.1+#G'.1+01&#L RJMN7

Z: 01&#T, F3"-#"15"/, /"015;#.--(55#/0#.-.+(: "-# .1+#!0-./"01.3# "15"/, /"015#.350#+#99)5#FD#)(&"017#@' (#.!)&.(#/')(CD(.)#!0-./"01.3# -033(&(5#5'.)(#"1#/' (#/0.3#T, F3"-#"15"/, /"015#B.5#=0#T()##-(1/#"1#>J60;#





F. 10.7 Number of High School and College Students for Every 100,000 Residents (2014)

Source: China Statistic Yearbook for Health and Birth Control 2015.

O/' (#)(&"015#B"/' #=#;R?H;#R;OR?#. 1+#0;R>6;#)5T(-/'! (3D7#@. F3(#6JZ7R# .350#)(T0)/5#/' (# '&' #5-' 003#0#-033(&(#5/, +(1/#) ./'0;#. 10/' (#"1+-. /0)# 09#-033(&(#. --(557#@' (# '&' (#) #' /' (#) ./'0;#/' (#: 0)(#+ "99"-, 3/#/"#5#0# .// (1+# -033(&(#"1#/' (#)(&"01#-01- ()1(+7#Z1' , "#% (1.1;#G' .1^";#P, .1&+01&# P, .1&^";#% .1.1;#G"- , .1;#P, "d' 0, #P. 15, ;#F "1&' .";# <"1&^".# .1+# u"1h".1&# .! (#.#5-0)(#09#67=#0)# '&' (#)01#/' "5#5-.3(#;B' "-' #"5#).153./(+ # /0#. #30B()#-033(&(#. --(55#90)#30-.3#)(5"+(1/57

G/, +(1/#: OF"3"/D#)./(5#.350#!.)D#.-)O55#)(&"O157#S(- (1/#.1.3D5"5#O9#/' (# + "5/) "F, /"O1#O9#! O-. /"O1.3#-O33(&(#5/, +(1/5# "1+-. / (5#/' . /#) "- ' ()#) (&"O15# / (1+#/O#.F5O)F#(1)O3: (1/#9)O: #O/' ()#) (&"O157#@.F3(#6JZ7=#5' OB5#/' . /;# O1#.# !)&(#Q>#T()#- (1/#O9# ' &' #5-' O03#&).+, . / (5#./ (1+(+#! O-. /"O1.3# -O33(&5#"1#/' ("#OB1#T)O!"1-(5#"1#>JJQ7#@' (#)./"O#).1&(+9)O: #R070Q# T()#- (1/# "1#@. 1h"1;#=?7=R#T()#- (1/# "1#G'. 1&' . "#. 1+# 1J7H>#T()#- (1/# "1#4' O1&i "1&7#E1#3(55#+ (! (3OT(+#) (&"O15;#5, -' #.5#P, . 1&^#"LH>7ROMN;# Z1', "#LH>7?6MN;#C, 11.1#LH07R6MN#. 1+#@"F(#6JJM#;# O5/#' &' #5-' O03# &).+, . / (5# . +#/O#./ (1+##/' (")# (&"O1.3#"15"/, /"O157

7"3-&">*-."/' .A%"!%-%" /3-^*-. /3

__1(#-'.).- / () "5"/"-#O9#4' "1.\5#" '&' ()#(+, -. /"O1# " ().)-' D#"5#/' . /#-3.5C 5"9"-."O1#5#10/#F.5(+#O1#.1#"15"/, /"O1\5#: "55"O1;#F, /#) . /' ()#.#-O: F"1.C /"O1#O9#"15"/, /"O1#/DT(#.1+#5(-/O)7# [13"Y(#/' (#4.)1 (&(#43.55"9"-."O1# L>J66N;#B' "-' #5#: "13D#F.5(+#O1#"15"/, /"O1.3#: "55"O1#.1+#T)O9"3(#5, -' # .5#"15), -/"O1;#(1)O3: (1/#T)O9"3;#5"d(#.1+#5(/"1&#;4' "1(5(#/")#5D5/(: #) (93(-/5#/' (#5(3(-!" /"D#O9#, 1+) &).+, . / (#(1)O3: (1;/#/' (# '&' (5/#3! (3#O9# + (&)((#-O19())(+#.#.1+#5(-/O)#LT, F3"-#! ()5, 5#T)! . / (N#O9#"15"/, /"O17#@' (# /")#5D5/(: #5# (.!"3D#"193, (1-(+FD#"5/O)D#.1+#"15"/, /"O1.3#.99"3."O17# E/#5#FO/' #.#) (T, /."O1.3#" ().)-' D#.1+#B)Y5#.5#.1#.+ : "15"/."! (#/O03;# .1+#/"#5#9"^(+7#E/#5#.3: O5/#": TO55"F3(#90)#.1#"1+!"+, .3#"15"/, /"O1#/O# : O! (#, T: .)Y(/#B'/' "1#/' (#5D5/(: 7

G"1-(#6HQJ5;#/' (#-(1/).3#., /' O)"D#'.5#" : T)O! (+#)(5(.)-' #"1#/' (# 1."O1.3#, 1!")5"/" (5#"B' "-' # ' .! (#F(-O: (#(3'/(#)(5(.)-' #"15"/, /"O157# @') (#"5#.#-O1-(1/)./"O1#O9#5(3(-!" (#, 1!")5"/" (5#"1#-) /."1#) (&"O15;# &(1()/"1&#) (&"O1.3# ! .) ./"O1#"1# .--(55#/O# ' &' # i , .3"/D#"15"/, /"O157# ` ("h"1&#'.5#>?#.1+#G'.1&' ."#. #5#H#nA)Oh(-/#>66#"15"/, /"O15;#B' "3(#60# O/' ()#T)O!"1-(5#" .! (#O13D#O1(#5, -' #"15"/, /"O1;#/B)O#T)O!"1-(5#" .! (# /B)O;#90, #T)O!"1-(5#" .! (#/') ((;#.#.1+#O/' ()#90, #T)O!"1-(5#" .! (#90,)

^OS(- (1/#+. / .#5' OB5#.#! ()D# ' &' #3! (3#O9#O! ()3.T#F/B((1#1."O1.3#, 1!")5"C /" (5#.1+#A)Oh(-/#>66#"15"/, /"O15c /' (# : O5/#5(3(-!" (#, 1!")5"/D#"1#4' "1.#Lb"# (# .37#>J6>#7Z: O1BJ#-(1/).33D#-O1/033(+, 1!")5"/" (5;#1O#L??MN#) (#."99"3." / (+#/O# 8"1"5/)D#O9#*+, -. /"O17#@' (D#) (#."33#+(5'&1. / (+#.#5#/' (#A)Oh(-/#>66#"15"/, /"O157#E1# -O: T: .)"5O1;#O13D#OH#O, /#O9#??Q#L=7QNM#) (&"O1.3#, 1!")5"/" (5#.) (#-' O5(1#.#5A)Oh(-/# >66#"15"/, /"O157

RRJ# \$# S01#g .1&#.1+#A0#c.1&

4' "1.# \$#RR6

RR># \$# S01&#g .1&#.1+#AO#c.1&

`.5(+#01#/' (#g 0)3+#`.1Y5#.1.3D/'-.3#9).: (B0)Y#90)#, 1"! ()5"/D#
&0! ()1.1-(#L2"(3+(1#>JJQN;#B(#+(! (30T#. #')((C+": (15"01#5-' (: .#/0#
.1.3D5(#4' "1.\5# '&' ()#(+, -."/01#&0! ()1.1-(7#2")5/#B(#+"!"+(#.+ : "1C
"5)/.!'! (#)(5T015"F"3"/" (5#"1/0#/')((#-./(&0)"(5q)(&, 3./"01;#T)0!"5"01#
.1+#9"1.1-(7# (<^/#B(#5(T).)/(#-(1/).3#.1+#T)0!"1-" 3#&0! ()1: (1/5#
.+ : "1"5)/.!'! (#+, /" (5#90)# (-' #-./(&0)D7#@' (#"190): ./"01#5, TTO)/"1&#
/' "5#.1.3D5"5#"1-3, +(5#!.)"0, 5#(+, -."/01.3#3(&"53./"01;#1./"01.3#T3.11"1&#
.1+#Y(D#)(90): #+0-, : (1/5#9)0: #/' (#3./(#6HHJ5#, T#/O#/' (#T)(5(1/7

<%#*1,-."/

@' (#)(&, 3./"01#09#/(/)" .)D#(+, -."/01#"1!03! (5#: .1D#.) (.57#@' (#%*Z#
6HHH#., /' 0)"d(5#4' "1.\5#8"1"5/)D#09#*+, -."/01#/O#9, 39"3#: 05/#.+ : "1C
"5)/.!'! (#+, /" (5#01#F(' .39# 09#/' (#-(1/).3#&0! ()1: (1/7#@' (#-(1/).3#

:&.;"3"/

Z--)(+/"'/'O1#5#01(#09#/' (#: 05#/' : TO)/.1/#.5T(-/5#09#"&')#(+, -/'O1#
&O! ()1.1-(7#4' "1. \5#8"15/5)D#09#*+, -/'O1#5#. , /' O)"d(+##FD#/' (#-(1/).3#
&O! ()1: (1/#/O#&).1/#3"-(-1-(5#/O#1(B#T, F3"-#O)#T)"!./(#90,)CD(.)#"15/"C
, /'O15#;B' "3(#T)O!"1-. 3#&O! ()1: (1/5#-.1#. --)(+/"#T, F3"-#/')((CD(.)#
!O-.'/"O1.3#-033(&(5#.1+#T)"!./(#O1(5#B'/' #. , /' O)"d.'/"O1#9)0: #' (#G/./(#
40, 1-"3#LZ)"/-3(>H;#%*Z#6HHH7#@' "5#.330B5#/' (#-(1/).3#&O! ()1: (1/#
/O#-01/)O3#/' (#5"d(#09#/' (#: 0)(#5(3(-/'! (#/'"O)5#.1+#F.3.1-(#/' (#)&"O1.3#
+"5)"F, /'O1#09#90,)CD(.)#"15/"', /'O157#E/#.350#&! (5#)&"O1.3#3(.+)5#1-(1C
/'! (5#/O#(^T.1+#!O-.'/"O1.3#"15/"', /'O157

E1#: ./()5#-01-()1"1&#/' (#"1/()1.3#&O! ()1.1-(#09#,"1! ()5"/"5;#5, -' #
.5#.TT)O!"1&#,"1! ()5"/"5#5/)./(&-"#T3.15#O)#5, TT0)"/"1&#,"1! ()5"/D#&O! C
()1.1-(#."1+#: .1.&(: (1/#/' (#8"15/5)D#09#*+, -/'O1#013D#: .1.&(5#"/5#
.99"3"./(+#"15"/, /'O15#;#/' (#10#1.'/"O1.3#, "1! ()5"/"57#_/')#3"1(#: "1"5/)"5#
O)#-(1/).3#.&(1-"5#/'Y(#-.)(#09#/' (")#.99"3"./(+#"15"/, /'O15#;#."10/')#RJ#
O)#50#-033(&(5#.1+#,"1! ()5"/"57#Z/#)&"O1.3#3(! (3#;#33#90,)CD(.)#T, F3"-#
"15"/, /'O15#.)(#.99"3"./(+#/O#T)O!"1-. 3#U(T.): (1/5#09#*+, -/'O17#@' (D#
1(&O"/./(#/' (")#"1/()1.3# "55, (5#B'/' #)&"O1.3#(+, -/'O1#., /' O)"'57#
8.1D#/')((CD(.)#!O-.'/"O1.3#-033(&(5#.)(#.99"3"./(+##B'/' #T)(9(-,)(#-/'D#
&O! ()1: (1/5;#50#/' ./#/' (")#"1/()1.3#&O! ()1.1-(#"55, (5#.)(#"1#/' (#' .1+#5#
09#30-.3#., /' O)"/"57

0"/,+%

Z5#10/(+;#/' (#T)O!"1-. 3#3(! (3#"5#/' (#T)": (#3(! (3#90)#), 11"1&#T, F3"-#

RRR# \$# S01&#g .1&#.1+#A0#c.1&

T()#-(1/#09#-033(&(#9"1.1-" .3#."+#-0: (5#9)0: #/' (#-(1/).3#&0! ()1: (1/7#
b0-.3#&0! ()1: (1/#-01/)F, / (5# .10/' ()#6H7H0#T()#-(1/7#@' (#) (5/#09#."+#
-0: (5#9)0: #' '&' ()#(+, -. /"01#"15"/, /"015#5.3(5# .1+#5()!"-(5#)!(1, (#
L>07QRMN;#50-. 3#9, 1+5#L67I >MN#. 1+#-0: : ()-. 3#F. 1Y5#L>07>HMN7

E1#)(5(.)-' #9, 1+"1&#;#/' (#G/./(#40, 1-"3#+#5/)F, / (5#: 05/#09#/' (#F.5-#
)5(.)-' #9, 1+"1&#/')0, &' #/' (#< . /"01.3#G-"(1-(#20, 1+ . /"01#09#4' "1.#
.1+#/' (#4' "1.#Z-.+(: D#09#G-"(1-(#5D5/(: 7#%0B(! ();#/' (#8"1"5/)D#09#
*+, -. /"01#"5#"1!03! (+#"1#/' (# .330-. /"01#09#)5(.)-' #9, 1+5#.#1 /"01.3#3(! (3#
E1#>J60;#/#.330-. /(+##S8` #617>H#F"33"01#90)#)5(.)-' #'1#/(/)" .)D#(+, -. C
/"01#"15"/, /"01;#>766#T()#-(1/#09#/' (#1. /"01.3#9"5-.3# .330-. /"01#90)#(/)" .)D#
(+, -. /"017#@' (#8"1"5/)D#09#*+, -. /"01#" .5# .350#5, TTO)/(+#1. /"01.3#(-^ (3C
3(1-(#"1"/. /"01 (5#5"1-(#/' (# : "+C6HHJ57#20)#"15/. 1-(#/"1#/"! (5/(##S8` #
>0#F"33"01#90)#/' (#9)5#T' .5(#09#A)0h(-/#H0=#. 10/' ()#S8` #>0#F"33"01#9"1#
/' (#5(-01+#T' .5(#. 1+#: 0)(#/' .1#S8` #R=J#F"33"01#9"1#/' (#/' ")+#T' .5(7

Z5#T.)/#09#/' (#-0: : .1+"1&# ('&' /5#09#"15"/, /"01.3#"") .)-' D;#/' (#
8"1"5/)D#09#*+, -. /"01#T)O!"+(5#OT) . /"01.3#F, +&(/5#90)#/' (#1. /"01.3#
, 1!"(5)"/(5#_/' ()# : "1"5/) (5#0)#-(1/).3#.&(1-(5#T. D#90)#/' (")#.99"3'./(+
"15"/, /"0157#@' (#8"1"5/)D#09#*+, -. /"01#" .350# .5(5#"1/()&O! ()1: (1/.3#
) .159)5#/O#5, TTO)#5T(-. 3#1. /"01.3#T)O&). : : (5# .1+#: 01"/O)5#"15"/C
/, /"01.3#/(.-' "1&#.1+#)5(.)-' #T()90): .1-(#FD#5(/"1#&.--0, 1/.F"3"/D#
-)/()".# .1+#-01+, -/"1&#T()0+"-#"15T(-/"0157

A)O!"1-.3#U(T.)/: (1/5#09#*+, -. /"01#.)(#013D#) (5T015"5F3(#90)#T)OC
!"+"1&#OT) . /"01.3#F, +&(/5#90)#/' (")#.99"3'./(+#"15"/, /"0157#@' (D# .350# .5(
-./(&O)"-.3#&).1/5#/O#5, TTO)/#5T(-.3#T)O&). : : (5#B"/' "1#/' (")#,)"5+"-C
/"01# .1+#: 01"/O)#/' (#T()90): .1-(#09#30-.3#"15"/, /"0157

@' (#-0: : .1+"1&# ('&' /5#90): #09#-(1/).3K)(&"01.3#) (3. /"01#" .5#FD# .1+#
3.)&(#5' .T(+##/' (#T)09"3(#09#4' "1.5#" '&' ()#(+, -. /"01#5D5/(: #/"1#) (- (1/#

=20)#"15/. 1-(#8"1"5/)D#09#*+, -. /"01#" .+T)O!"+(+##./(&O)"-.3#&).1/5#90)#/' (#
-015/), -/"01#09#6JJ#U(: 015/). /"01 (#< . /"01.3#X0-. /"01.3#4033(&5#9)0: #>JJ?#/O#
>J6J;#B"3(#/' (5(#/') (CD(.)#-033(&5#B) (# .99"3'./(+##O#T)O!"1-.3;#T)9(-,) (#
-0, 1/D#&O! ()1: (1/#0)#!(1#30-.3#(1/O)T)"5(57

4' "1.# \$#

RR?

RRQ# \$# S01&#g .1&#.1+#A0#c.1&

b0- .3# . , /' 0)" /" (5# ' .! (#5(-/0).3;#T03"/"- .3# .1+# (-010: "-#"1-(1/"! (5#
90)#/(/" .)D#+(! (3OT: (1/

●# ?)7<+*52/-%7)%<@).

/' (D#O13D#(^"5/#"1#/' (# [1"/(+#G/. / (5#. 1+#j. T. 17#A)"! ./ (#, 1"! ()5"/" (5#"1#
/' (#O/' ()#9O,)#-0, 1/)"(5# 1 (! ()# (.)1# 1. /"O1. 3#5"&1"9"- . 1-(#O)#hO"1#/' (#
(3"/(#3(. &, (7#*3"/(#T)"! ./ (#, 1"! ()5"/" (5#T3. D#. #: , -' #3(55())O3(#"1#j. T. 1#L. #

R=J# \$# S01&#g .1&#.1+#A0#c.1&

@' (#4' "1 #- .5(#33, 5)/.(5#/' ./#1#.#101C9(+().3#5/./(<#"/#5#. #T055"F3(#/O#
3., 1-' #.#).T"+# "&' ()#(+, -./"01#(^T.15"01#1-3, +"1&##' (#i, "-Y#&)0B/' #
09#)(&"01.3#5D5/(: 57#@' (#5/./(#"5#.F3(#/O#F0/' #F, "3+#g 4 [5#. 1+#.F50)F#
/' (#"1-).(5"1&#(1)03: (1/#"1#/' (#101C5(3(-/"! (#)(&"01.3#15"/, /"015;#.5#
301&#.5#/' (#-0: : .1+"1&# ('&' /5#5/)./(&D#-. 1#T)0!"+(#30-.3#F,)(. , -)./5#
B"/' #(10, &' #1-(1/"! (5#/')0, &' #/' (#+(- (1/).3"d./"01#09#.+: "1"5)./!" (#
. , /' 0)"D#/OB.)+5#)(&"01.3#&0! ()1: (1/57#@' (#-0: : .1+"1&# ('&' /5#

2, /,)(#)(5(.)-' #5#1((+(+##1#5(! ().3#.) (.57#2")5/;#(: T")"- .3# .1 .3D5"5#O9#
/' (#": T.-/#O9#/' (#-0: : .1+"1&#' ("&' /5#5/)./(&D#O1#)(&"O1.3#!.)./"O15#
: .D#' (3T#, 5#T"1#+OB1#/' (#n-003"1&CO, /#(99(-/\#. 1+##/' (#nTO3.)"d./"O1#

R=># \$S01#g.1&#.1+#A0#c.1&

j". ;#] 7;#. 1+#z' .0;#f 7#%7# (#.3#>JJQ7#eU/h)5*./+0/G)@-X/+0/M8-%5P./6-.752/?J.-), /
G)0+*, /5%&/6\$-\$)/F*.4)7<@)7#` ("h"1&#;4' "1.a#A(0T3\5#A)(55#L"1#4' "1(5(N7
j". 1&#;#] 7#z;#. 1+#u". ;47#87#>J6>7#n@' (#_99CF, +&(/.)D#S(! (1, (#*^T. 15'01# .1+#
A, F3-#P00+5#G, TT3D#09#b0-.3#P0! () : (1/#[1+(#2'5-.3#U(- (1/).3'd./'01q Z1#
* : T)"-.3#Z1.3D5"5#".5(+01#4' "1.#A)0!"1-.3#A.1(3#U./.\7#<8)m%3/?+7-52/?7-)%7/
Y+\$%52#Q#L6=#a#>>>K>>R#L"1#4' "1(5(N7
j". 1&#;#f 7#>JJH7#m* : T)"-.3#Z1.3D5"5#09#X()/"- .3#2"5-.3#E: F.3.1-(#./#A)0!"1-.3;#4"/D#
.1+#40, 1/D#b(! (3#"1#4' "1.\7#Y+\$%52/+0; %8\$-/Q%-@)*.-<J#>JJH#L0#60R#6R#J#
L"1#4' "1(5(N7
j"1;#%7;#f". 1;#c7;#. 1+#g ("1&.5;#` 7# S7#>JJ=7#nS(&"01.3#U(- (1/).3'd./'01# .1+#
2"5-.3#E1-(1/"! (5a#2(+).3'5: ;#4' "1(5(G/D3(\7#Y+\$%52/+0/F\$12-7/=7+%+, -7;#QH#
LH#;#616HK61R>7
j"1&#;#f 7#>JJ17#n@' (#@.^#G' .)"1&#S(&": (#.1+#/' (#X()/"- .3#2"5-.3#E: F.3.1-(# "1#
4' "1.a#8(.5,): (1/#.5(+01#%, 1/()#8(/' 0+V7#Y+\$%52/+0/M)%<52/6-%5%7)/x/
=7+%+, -7./Q%-@)*.-<J#>JJ1#L6#60K6?#L"1#4' "1(5(N7
]) , &#;` 7;#. 1+#b'F: .1;#Z7#>J6=7#n40: : '/: (1/#/0#b0-.3#Z, /010: D#"1# <01C
+(: 0-).-"(5a#S, 55".# .1+#4' "1.#40: T.)(+V7#M+%.<-\$<+%52/ F+2<752/=7+%+, J#
>?#L>#a#>>6K>R=7
b";#%67;#. 1+#z' 0, ;#b7#Z7#>JJ=7#nA03"/"- .3#@,)10! ()# .1+#* -010: "-#A(90): .1-(a#
@' (#E1-(1/"! (#S03#09#A)()5011(3#401)03#"1#4' "1.\7#Y+\$%52/+0/F\$12-7/=7+%+, -7#
QH#LH#;#61ROK61?>7
b";#%7#` 7;#8(1&#;#b7#G7;#G' ";#u7#z7;#. 1+#g , ;#` 7#z7#>J6>7#nU0(5#Z/(1+"1&#*3'/(#
4O33(&(5#A. D#"1#4' "1.r#Y+\$%52/+0/M+, 45*5<@)/=7+%+, -7.#RJ#L6#L#1 QK0Q07
b", ;#c7#>J607#F\$12-7/6-%5%7)7#` ("h"1&a#A(Y"1&#[1"! ()5)/D#A)(55#L"1#4' "1(5(N7
b", ;#47#f 7;#. 1+#] (#;u7#>J6=7#nE: T.-/#09#X()/"- .3#2"5-.3#E: F.3.1-(#01#A)0!"1-.3#
`.5"-#*+, -./'01#G()!"-#A(90): .1-(#X.)./'01#"1#4' "1.\7#=7+%+, -7/L..\$)#>J6=#
L6#L#I K6R#L"1#4' "1(5(N7
b", ;#87#u7;#z'. 1&#;#U7;#G' "' ;#z7#%7;#. 1+#z' , ;#87#47#>J6R7#nA0B(0#G/), -/)(#09#
A03"/"- .3#*3'/(5# .1+#G, 5/"1.F"3"/D#09#* -010: "-#4(1/).3'd./'01#"1#4' "1.\7
bOD.3Y. ;#A7;#G01&#;c7#f 7;#. 1+#j7#P7#g ("7#>J6>7#n@' (#*99(-/5#09#Z/(1+"1&#G(3(-/"! (#
4O33(&(#@")5#"1#4' "1.\7#?+7-52/?7-)%7)/G.)5"78#R6#L>#a#>>Q1 KOJ=7

8"1"5/)D#09# *+, -. /"01#.1+# 8"1"5/)D#09# 2"1.1-(7#>J6J7#P, "+(3"1(5#90)#2,)/' ()#
 E1-).(5"1&#A()#G/, +(1/#2"5-.3#Z330-. /"01#"1#S(&"01.3#20,)CD(.)#E15"/', /"0157#
 Z!. "3.F3(#. /#' //TaWWO3+7: 0(7&O!7-1WWT, F3"-9"3(5WF, 5"1(55W' /: 39"3(5W: 0(W
 : 0(v6l IHW>J60JQW6==6R17' /: 3

q q q q 7#>J6=7#A\$-&2%)./0+*/Q%&)*3*5&\$5<)/L%.<?\$1<+%/G)0+*, /5%&/R)578-%3/O\$52<-J/
 F*+m)7<./-%/ TUV[/5%&/TUVW7#Z!. "3.F3(#. /#' //TaWWBBB7: 0(7&O!7-1WhDFv^^&YW
 : 0(v6l IHW: 0(v6l IHW>J6RJQW/>J6RJQ66v610?Q17' /: 3

8"1"5/)D#09# *+, -. /"017#>J6=7# ` 5<+%52/ G)4+* < /+%/ ?\$&)%< /6-%5%7-52/ ; -&/-%/ TUV[7#
 Z!. "3.F3(#. /#' //TaWWBBB7: 0(7&O!7-1WhDFv^B9FW&d+/v&d+/W5=HQI W>J6=JQW
 />J6=JQ6Qv>JJ?QJ7' /: 3

8"1"5/)D#09# 2"1.1-(#.1+# 8"1"5/)D#09# *+, -. /"017#>J607#R), 4+*5*/G)3\$25<+%/ +%/

 ` 5<+%52/A*5%<0+*/A*5&\$5<)/?<\$&)%<./` +aTUVeaTTU^7#Z!. "3.F3(#. /#' //TaWWBBB7
 : 0(7&O!7-1WhDFv^^&YW: 0(v6l IHW: 0(v6l IHW>J60JQW/>J60JQ6>v6===?67
 ' /: 3

A"1&#;u7# f 7#>JJ17#n@' (#@)(1+#09# *^T.15"01#09# 4' "1.\5#b0-.3#P0!()1: (1/#
 *^T(1+/,)(#G-.3\7#

R=R# \$# S01&#g .1&#.1+#A0#c.1&

g .1&:#U7;#.1+#b", ;#j7#>J667#n4' "1.\5#%"&' ()#*+, -. /"01#*^T.15"01#.1+#/' (#@.5Y#
09#*-010: "-#S(!"/.3"d./"01\7#B-38)*/=&\$75<-+%#?>#L>Na#>60K>>H7

g .1&:# z7# P7;#.1+# P01& ;# b7# @7;#>JJH7#n2"5-.3# U(- (1/).3"d./"01#.1+# b0-.3#
P0! ()1: (1/# <01C/.^# S(! (1, (a# ` .5(+ #01# A)0!"1-.3# 2"5-.3# U./.\7# C+*2&/
=7+%+, -7/" -<)*5<\$)#>JJH#L=Na#6I K00#"1#4' "1(5(N7

g (" ;#j7# P7#>JJ17#n40: T.)/"! (#G/, +D#01#E15"/, /"01.3# A.//()15#09#U!"5"01#09#
2"5-.3#A0B()5#.1+#/' (#4' 0"-(#09#4' "1.\7#"5X/5%&/?+7-5J:)@)2+4,)%#I Q#L?Na#
6>Q#"1#4' "1(5(N7

q q q 7#L>J6RN7#n%"5/0)"-.3# *!03, /"01#09#4' "1.\5#%"&' ()#*+, -. /"01#2"1.1-(\7#

1. **10A.1** Characteristics of Symmetric and Asymmetric Systems

| | S | C | R | (UR | S |) | A | C | R | (G | R |) |
|--|--|---|--|-----|--|---|--|---|--|----|--|---|
| Constitutional Structure and Government Levels | Three levels: federal government, state government and local government | | Three levels: federal government, state government and local government | | Three levels: federal government, state government and local government | | Three levels: federal government, state government and local government | | Three levels: federal government, state government and local government | | Three levels: federal government, state government and local government | |
| Division of Duty and Responsibility for Fiscal Expenditure | Federal government: macro issues, national public goods provision such as national defence, foreign affairs, R&D and pay for related affairs | | Federal government: macro issues, national public goods provision such as national defence, foreign affairs, R&D and pay for related affairs | | Federal government: macro issues, national public goods provision such as national defence, foreign affairs, R&D and pay for related affairs | | Federal government: macro issues, national public goods provision such as national defence, foreign affairs, R&D and pay for related affairs | | Federal government: macro issues, national public goods provision such as national defence, foreign affairs, R&D and pay for related affairs | | Federal government: macro issues, national public goods provision such as national defence, foreign affairs, R&D and pay for related affairs | |
| Rights to Fiscal Gains | Federal government relies on income tax; State government relies on sales tax; local government relies on property tax | | Federal government relies on income tax; State government relies on sales tax; local government relies on property tax | | Federal government relies on income tax; State government relies on sales tax; local government relies on property tax | | Federal government relies on income tax; State government relies on sales tax; local government relies on property tax | | Federal government relies on income tax; State government relies on sales tax; local government relies on property tax | | Federal government relies on income tax; State government relies on sales tax; local government relies on property tax | |

(Continued)





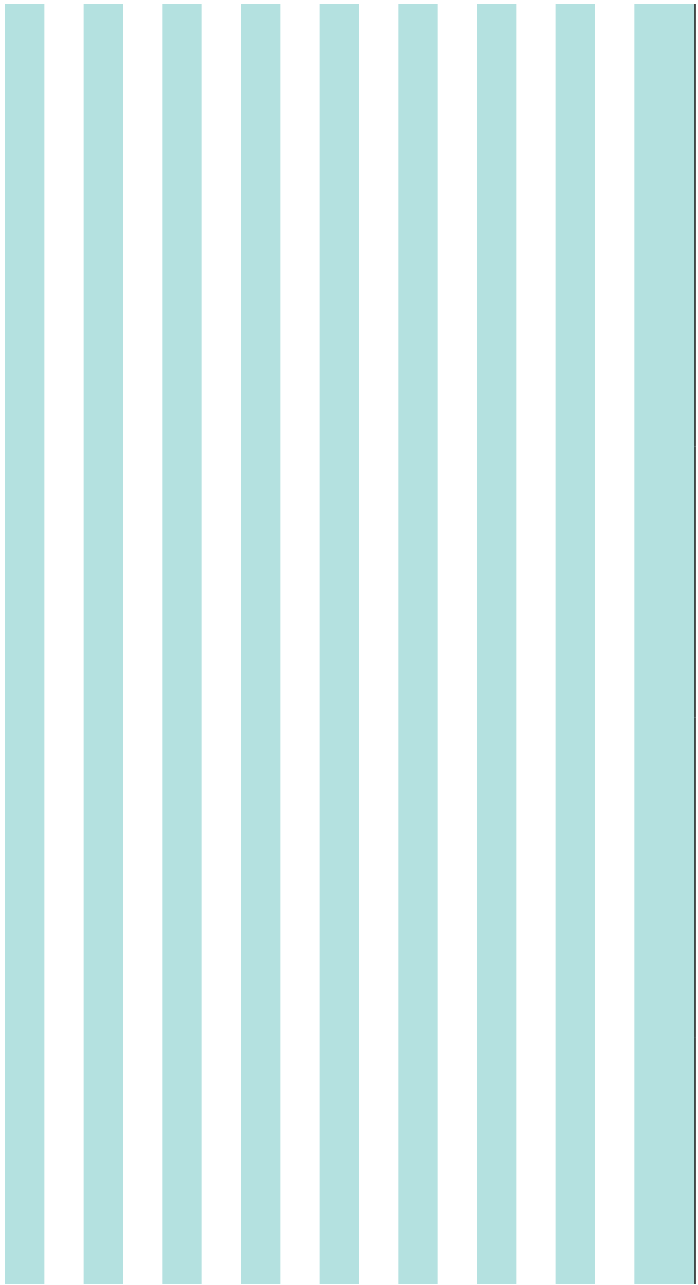
1. **10A.2** (Continued)

R B

| | | | | | | | | |
|-----------|-----|---|----|----|----|----|---|----|
| Guangxi | 70 | - | - | 32 | 38 | 6 | - | - |
| Hainan | 17 | - | 6 | 11 | 1 | 1 | - | - |
| Chongqing | 63 | 2 | 24 | 39 | 4 | 4 | - | 7 |
| Sichuan | 103 | 6 | 48 | 55 | 18 | 1 | 1 | 16 |
| Guizhou | 52 | - | 26 | 26 | 4 | 4 | - | - |
| Yunnan | 67 | - | 29 | 38 | 2 | 2 | - | - |
| Tibet | 6 | - | 3 | 3 | - | - | - | - |
| Shaanxi | 92 | 6 | 54 | 38 | 16 | 16 | - | - |
| Gansu | 42 | 2 | 21 | 21 | 6 | 6 | - | 30 |
| Qinghai | 9 | - | 4 | 5 | 2 | 2 | - | - |
| Ningxia | 16 | 1 | 8 | 8 | 1 | 1 | - | - |
| Xinjiang | 41 | - | 18 | 23 | 7 | 7 | - | - |

Source: China Education Statistical Yearbook 2013.



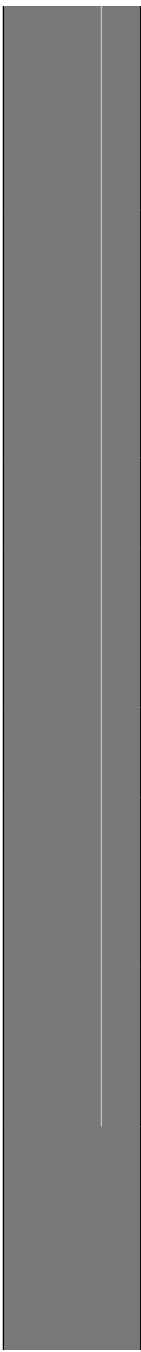




| | | | | | | | | |
|------------------|--------|----|-----------|-------|-------|-------|--------|--------|
| Xinjiang | 19,893 | 21 | 25,637 | 0.45 | 1.55 | 9.14 | 88.86 | 73.07 |
| Hubei | 19,860 | 51 | 108,184 | 0.63 | 5.51 | 86.14 | 7.71 | 78.50 |
| Henan | 19,593 | 51 | 200,047 | 0.19 | 0.95 | 96.93 | 1.93 | 95.05 |
| Shaanxi | 18,246 | 37 | 86,366 | 0.51 | 1.43 | 8.04 | 90.02 | 81.69 |
| Chongqing | 18,025 | 25 | 38,599 | 70.99 | 3.48 | 8.31 | 17.22 | 70.92 |
| Ningxia | 17,892 | 8 | 13,541 | 0.00 | 0.74 | 3.18 | 96.07 | 89.06 |
| Hunan | 17,521 | 68 | 135,174 | 0.61 | 2.97 | 91.50 | 4.91 | 86.41 |
| Qinghai | 17,389 | 5 | 10,463 | 0.95 | 1.73 | 6.26 | 91.06 | 82.18 |
| Hainan | 17,175 | 9 | 15,339 | 2.92 | 18.10 | 56.67 | 22.31 | 31.49 |
| Sichuan | 15,378 | 47 | 86,598 | 3.38 | 1.25 | 3.44 | 91.93 | 86.50 |
| Guangxi | 14,966 | 38 | 91,326 | 0.20 | 1.13 | 4.33 | 94.35 | 92.43 |
| Jiangxi | 14,781 | 41 | 69,219 | 0.46 | 5.36 | 86.30 | 7.87 | 75.96 |
| Anhui | 14,485 | 60 | 128,383 | 0.31 | 2.58 | 95.46 | 1.64 | 92.61 |
| Tibet | 13,861 | 3 | 2,023 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Yunnan | 12,587 | 34 | 54,810 | 0.61 | 0.53 | 2.58 | 96.28 | 93.14 |
| Gansu | 12,110 | 21 | 59,494 | 0.03 | 0.18 | 0.70 | 99.10 | 97.87 |
| Guizhou | 8,824 | 22 | 42,098 | 0.97 | 2.06 | 4.85 | 92.12 | 87.33 |
| National Average | 22,698 | 37 | 2,293,587 | 8.79 | 20.71 | 32.47 | 38.02 | 81.89 |

Source: Wei Yi (2010) Unpublished Master Thesis. Peking University.

1. 10A.6



R70# \$# S01#g .1&#.1+#A0#c.1&

1. **10A.7**



" #S%&' !(#S') *#5#X"+. #j. -Y5#A)09(550)#09#*+, -. /"01#. 1+#* -010: "-5#. /# G/. 190)+# [1"! ()5"/D;#/' (# [1"/(+#G/. / (57#% (#B. 5#/) . "1(+#. /#/' (# [1"! ()5"/D# 09# 4' "-. &0#. 1+#B)"/ (5#01#/' (# (-010: "-#! .3, (#09# (+, -. /"01#. 1+#/' (# T03"/"- .3#(-010: D#09#(+, -. /"01. 3#T03"-D7#8, -' #09# "5#B0)Y#5#-0: T.). C /"!(#. 1+#"1/()1. /"01. 37

+, #-!. \$) /O&' #5#A)09(550)#. 1+#Z-. .+(: "-#G, T()!"50)#. /#/' (#E15"//, /(#09# *+, -. /"01;#<. /"01. 3#S(5(.)-' # [1"! ()5"/D#%"&' ()#G-' 003#09#* -010: "-5;# S, 55". 7#%"5#-,))(1/#Y(D#)(5(.)-' #1/() (5/5#.) (#/' (#+(! (30T: (1/#09# "&' () (+, -. /"01#5D5/(: 5;# "&' ()#(+, -. /"01#+ "99) (1"/. /"01#. 1+#, 1"! ()5"/D#. 1+# 5-' 003#&0! ()1. 1-(7

1 234153, 6/-) 7#5#S(5(.)-' #2(330B#./#/' (#b. F0). /O)D#90)# [1"! ()5"/" (5# U(! (30T: (1/# . /#/' (#E15"//, /(#09# *+, -. /"01;#<. /"01. 3# S(5(.)-' # [1"! ()5"/D#%"&' ()#G-' 003#09#* -010: "-5;# S, 55". 7#%"5#-,))(1/#Y(D#) (5(.)-' #1/() (5/5#.) (#+(! (30T: (1/#09#) (&"01. 3# "&' ()#(+, -. /"01#5D5/(: 5# . 1+#1. /"01. 3K) (&"01. 3#) (3. /"015" T5#1#&0! ()1. 1-(#09# "&' ()#(+, -. /"017

8&O)' !" #S4&' ,)' #5#A)09(550)#09#E1/()1. /"01. 3#%"&' ()#*+, -. /"01#. /# /' (# [4b#E15"//, /(#09# *+, -. /"01;# [1"! ()5"/D# 4033 (&(#b01+01;# [1"/(+ #] "1&+0: 7#% (#5# 350#/' (#U") (-/O)#09#/' (#*G*4W%*24*#4(1)(#90)# P30F. 3#%"&' ()#*+, -. /"01#. 1+#*+ /O)C"1C4" " (9#09#B-38)* /=#&\$75<+%7#%#(# 90-, 5(5#01#&30F. 3# 1+#"1/()1. /"01. 3# 5T(-/5#09# "&' ()#(+, -. /"01;#5D5/(: # + (5"&1#. 1+#(+, -. /"01#. 1+#50-. 3# "1(i, .3"/D7

! "#\$%"&'()*"+#! "#%")%

(&*+, -'. -'/0"#0*

R1 ># \$% '&' ()#*+, -./"01#"1#2(+().3#40, 1/)"(5

9): 3\$%)!9); \$<4/3=>?@O3=#"5#. #50-"030&"5/#. 1+#9, 33#T)O9(550)#./#/' (#
E15"/, /(#09#G0-" .3#S(5(.)-' #09#/' (#<./"01.3#Z, /O10: 0, 5# [1"! ()5"/D#
09#8(^"-0;#8(^"-07#%"5#: ."1#. -. +(: "-#"1/() (5/5#"1-3, +(#-0: T.)./!" (#
' '&' ()#(+, -./"01#T03"-D;# "5/O)D#09#/' (#, 1"! ()5"/D#. 1+#"110! ./"01#T)OC
-(55(5#"1#, 1"! ()5"/D#O)&. 1"d./"0157

A2\$&B6!C3&B623\$#B.5#A)O9(550);#9)O: #6HI Q#/O#>J60;#. 1+#/' (#U")(-/0);#
90)#: .1D#D(.)5;#./#/' (#E1/()1./"01.3# 4(1/)(#90)#%"&' ()#*+, -./"01#
S(5(.)-' #LE<4%*SC].55(3N;#/' (# [1"! ()5"/D#09#].55(3;#P(): .1D7#%(#
"5#. #50-"030&"5;/#B' 0#-01+, -/5#)(5(.)-' #01#' '&' ()#(+, -./"01#. 1+#/' (#
B0)3+#09#B0)Y;# '&' ()#(+, -./"01#5D5/(: 5;#1/()1./"01.3# -00T()./!"01#
.1+#: 0F"3"/D#. 1+#/' (#.-.+(: "-#T)O9(55"017

D#'; 6*#2#! EF! ?F! C&2#-;#*-010: "5/#09#*+, -./"01#. 1+#90): ()#2, 33#

.+ : "//(+5/, +(1/5#
1, : F();#R?J
.99"3"./(+##-033(&(5;#>=H
.99"): ./"! (#. -/"01;#>I?K>IH
Z33CE1+".#40, 1-"3#90)#@(-' 1"-.3#
*+, -. /"01#LZE4@*N;#>IR
Z: F(+Y.);#`7#S7;#0JJ
.5D: : (/)"-#9(+0).3"5: ;#0?J
Z, 5/).3".#
(-010: D#. 1+##(: O&).T' D#606K60>
9(+0).3"5: #. 1+## " &' ()#(+, -. /"01;#
6RR
F(&"11"1&5;#6R=
-0)T0)./"015#. 1+##1. /"01' 00+##
TOB();#6=?K6=Q
1. /"01.3#. --)(+ /"01#)(&" : ;#
6==
, 1"9"(+##1. /"01.3#5D5/(: ;#
6RI K6==
9(+0). /"01#. 1+## " &' ()#(+, -. /"01;#
6>?K60J
&(O&).T' D;#60>
&30F.3"d. /"01;#6?>
&30F.3#5/, +(1/#: .)Y(/;#6?OK6?=
B0)3+C-3.55#, 1"! ()5"/" (5#
Lg 4 [5N;#6?>
' &' ()#(+, -. /"01;#60>K60?
T, F3-#, 1"! ()5"/" (5;#60IK60Q
' "5/0)D;#60>#
"1/()1. /"01.3"d. /"01;#6?>
B0)3+C-3.55#, 1"! ()5"/" (5#
Lg 4 [5N;#6?>
T)! . /(#' &' ()#(+, -. /"01#. 1+##X*@;#
60IK60H
) (5"+, .3#TO/(1"/.3#
&O! ()1.1-(#. 1+##. +"/;#6=H

)(&"01.3#+(! (30T: (1;/#6=H
5/. / (5#. 1+##) (5(.)' -' ;#6?J
X*@;#6?6
G(- /"01#H?#. 1+##) (&, 3./0)D#9(+0).3C
"5: ;#60HK6R>
5/. / (5#. 1+##(/)"/0)" (5;#60>K60=
! () /"- .3#9"5- .3#": F. 3. 1-(;#60HK6R>
B0)3+C-3.55#, 1"! ()5"/" (5#Lg 4 [5N;#
6?>
g 0)3+##g .)#EE;#60HK6R>
Z, 5/).3". 1#< . /"01.3# [1"! ()5"/D#
LZ < [N;#60Q
F. -YB.)+##-3.55(5;#>II
F. 3. 1-(+##. 1+##5, 5/. "1. F3(#) (&"01.3#
' &' ()#(+, -. /"01#5D5/(: ;#OHO
`.)#40, 1-"3#09#E1+" . ;#>IR
F. 5"-#(+, -. /"01.3#OTTO)/, 1"/" (5#&). 1/#
L` * __PN;#RI
`030&1.#A)0-(55#1#*,)OT(;#6II
`) .d"3#
' &' ()#(+, -. /"01;#>6?
. - . + (: " -# : OF"3"/D#. 1+##
) (&"01.3#+(! (30T: (1;/#
>RQK>=J
. --(55"F"3"/D;#>ROK>R=
, /010: D#. 1+##. --0, 1/. F"3"/D;#
>R=K>RI
-'.) . - /() "5"/- ;#>>0
-015"/, /"01;#>6Q
+(- (1/).3"d. /"01;#>6I
(-010: " -# .5T(-/5;#>0>K>0Q
2E*G;#>>0
' 0: O&(1("DW' (/()O&(1("D;#
>R>
__ * 4U;#>>J

RIR# \$# %"&' ()#*+, -./01#1#2(+).3#40, 1/)"(5

T)O9(550)5;#>>1
A)O[1";#>>R
)(&, 3./O)D#. 1+#3(&.3#55, (5;#
>>QK>0>
) (5(.)-' ;#"1/()1."/01.3"d."/01#
. 1+#(^-(3(1-(#"1"/"./!"(5;#
>0QK>R6
5/), -/,)(;#>6H
5/, +(1/5#(1)03: (1/5;#>>=
/DT(#. 1+#)(#"01;#>>6
/)"CT.)"/(#9(+).3#9).: (B0)Y#
-01/(^/#0! ()!"(B;#>60K>6=
: 0+(3;#>60
`)"/5' #<0)/' #Z: ()"-.#Z-;/#HI

4. 1. +. #G/, +(1/#b0. 15#A)0&).: #
L4GbAl;#6J?;#66R

4. 1. +. ##9).: (B0)Y#

E1+(^

RI?# \$

&)0B/' :#0>JK0>=
 "15"/, /"015#
 ., /010: D#.1+#9(+().3"5: ;#
 00>K00?
 (i, "/D:#00?KORR
 8"1"5/D#09#*+, -. /"01:#R6J
 8"1"5/) (5#09%#, : .1#S(50,)-(#
 U(! (30T: (1/#L*+, -. /"01N#
 L8%SUN;#>IR
 : 0+()1#9(+().3"5: ;#0J?
 : 0+()1"d"1&#.1+#) (90): "1&:#0>
 <./"01.3#Z55(55: (1/#.1+#
 Z-)(+/"01#40, 1-"3#
 L<ZZ4N;#>IR
 <./"01.3#`0.)+#09#Z-)(+/"01#
 L<`ZN;#>IR
 <./"01.3#40: : "55"01#90)#%&' ()#
 *+, -. /"01#.1+#S(5(.)-' ;#>HH
 <./"01.3#40, 1-"3#90)#@(-.')#
 *+, -. /"01#L<4@*N;#>IR
 <./"01.3#U(9(15(#*+, -. /"01#Z-/#
 L<U*ZN;#RR
 <./"01.3#*+, -. /"01#GD5/(: ;#>6>
 <./"01.3#*3*"F"3"/D#@ (5/;#>1H
 <./"01.3#] 10B3(+&(#40: : "55"01;#>QH
 1./"01.3#T)Oh(-/5:#0?6
 <./,).3#G-"(1-(5#1.1+##*1&"1() "1&#
 S(5.)-' #40, 1-"3#
 L<G*S4N;#66?
 101C9(+().3#5/./ (5#
 ' "&')#(+, -. /"01:#RJO
 __99"- .3#S(-0&1"/"01#09#*+, -. /"01.3#
 X.3"+"/D#LSX__*##1#GT.1"5" N;#
 00?
 __)&.1"d./"01#90)#*-010: "-#
 40COT()./"01#U(! (30T: (1/#
 L_*4UN;#>>J
 A' .): .-D#40, 1-"3#09#E1+.;#>IR
 T05/C-0301".3#5/./ (5;#>HK06
 T05/CB.)#9(+().3"5: #
 .: (1+: (1/5;#6H1> ;#RI
 ` * __P;#RI ;#RQ

4"! "3#S"&' /5#Z-/#0#6H?R;#R=
 -0: : , 1"/D#-03&(5;#RQ;#RQ
 *-010: "-#__TTO)/, 1"/D#Z-/#0#
 6H?R;#R?
 * __P;#R?
 9, 1+5#! .! "3.F"3"/D;#RQ
 &0.35;#R0
 PGB;#R?
 %` 4 [5;#R=
 %*Z;#RI
 %"&' ()#*+, -. /"01#90)#U(: 0-).-D;#
 RO
 : .) "&"1.3#5/, +(1/5;#RQ
 <U*Z;#RR
 T03"- (5;#RO
)03(#"1#(+, -. /"01;#J
 5-"(1/"9"-#) (5.)-' ;#RR
 @), : .1#40: : "55"01;#RR
 [GGS;#RR
 T).&: ./"-#9(+().3"5: ;#0?=
 A)"1-(#*+B.)+#E53.1+#LA*EN;#6JO
 T)"! ./(#, 1"! ()5"/"5;#>10
 A)0&): #90)#/' (#E: T)0! (: (1/#09#/' (#
 A)09(550)5" T#LAS_8*AN;#
 00?
 A, F3"-#*+, -. /"01#G(-) (./) .:/;#06?
 i, .3"/D# .55(55: (1/#
 ' "&' ()#(+, -. /"01;#6JR
)(&"01.3#15"/, /"015#
 T)#5/, +(1/#9"5-.3#(^T(1+/,) (:#R?H
)(! (1,):#R?I
)(&"01.3#5D5/(: 5#09# " &' ()#(+, -. /"01;#
 0H0
 S.5"/)D.# ['- ' //.)#G' "Y5".#ZF" D.1#
 LS [GZIN;#0J6
) (5)! ./"01#Li, 0/.5N;#>1I
 S, 55".1#2(+().3#8"1"5/D#09#*+, -. /"01#
 .1+#G-"(1-(#L8__*GN;#0=R
 S, 55".1#2(+()./"01;#0?>
 .+: "1"5/)./"1 (W3(&.3;#0=?
 S, 55".1# " &' ()#(+, -. /"01#5D5/(: ;#
 0??K0I 6
 +((30T: (1/;#) (1+5;#OH=

RIQ# \$%#' ()*+, -./01#1#2(+).3#40, 1/)(5

1./01.3K)(&"01.3#)(3./015" T5;#
O16KOI=#01?KOH6
9"1.1-".3#.5T(-/5;#OQRKOOI
)(&, 3./O)D#.5T(-/5;#01?KOI I
5/), -/).3#.5T(-/5;#01 I KOQ>
S, 55".1#GO!"(/2(+).!"#GO-".3"5/#
S(T, F3"-;#0=Q
S, 55".1#@.^#40+(;#0?>

5- ' 03.)5" T#
": T3"-./015;#R
5(39C9"1.1-"1&#, 1!" ()5"/" (5;#>Q>
G- ' (+, 3(+ #4. 5/ (5;#>? =
G- ' (+, 3(+ # @) "F (5;#>? =
GO- ".3#G- "(1-(5#1.1+%, : .1"/" (5#
S(5(-)' #40, 1-3#09#4.1.+. #
LGG% S4N;#66?
GO!"(/#4 (1).3#A3.11"1&#Z, /' O)"D;#
O16
G/./(#%&' ()*+, -./01#*^(-, /"!(#
_99"-)5#Z550-"/01#
LG%* * _N;#I J
5/./(#/).+/"01#.1+#T03"/"- .3#-, 3/),(#
-O: T)' (15"!(#5/./ (5;#H
9(+).3#5D5/(: # "1#S, 55".;#66
T.//()1#09#+(! 03, /"01;#6J
, 1"/.D#: O+(3;#H
9(+).3"5: ;#DT (5;#6>
-019(+).3#5D5/(: ;#60
(i, "/D#B"/" "1#9(+).3"5: ;#6=K6I
9(+).3;#60
9"5-.3#": F.3.1-(;#6R
90, 1+1&#)(3./015;#6>K6R
"1/O&O! () : (1/.3#)(3./015;#6O
"(%&)*;#6O
, 3/"3(1 (3#T03"/"- .3#5D5/(: ;#+(-"C
5"01;#6RK6=
1./01.3#-01/)O3W"193, (1-(;#
: (.15;#61 K6Q
3": "/(+ #3" F)O.3#5/./ (5#
9(+).3"5: ;#1
3.B# .1+#+(:)-./01;#Q

T03"/"- .3#-, 3/),(;#1
5(39C3": "/5;#Q
T05/C-030"1.3#5/./ (5;#66
5/, +"(5;#R
5/, +(1/#30.15;#0Q
G, T) (: (#40,)/#09#E1+ ".#>I Q
5D: : (/)"-#.1+#.5D: : (/)"-#5D5/(: 5#
-').-/()"5"/"-5;#R=?
@(-' 1"- .3#.1+#2,)' ()*+, -./01#
L@Z2* N#-033&(5;#6?6
@(/)".D#*+, -./01#F , .3"/D#.1+#
G/.1+.)+5#Z&(1-DL@* F GZN;#
6==
, 19."#T).-"/-(5;#>Q?
[1"01#@)(./D#09#6H>>#0=Q
, 1"01K5/./ (#9"1.1-(5# "1# ' &' ()
(+, -./01#
[P4#9, 1+1&#>Q1K>QH
, 1"/.D#5D5/(: 5;#6>
[1"/(+ #G/./ (5#
9(+).3#5D5/(: #09#&O! () : (1;/#0I
g O)3+ #g.)#EE;#, 1!" ()5"/D#5D5/(: #
(1)O3: (1;/#R>
%./-' #Z-;/#R6
8O)"3#Z-/#09#6QHJ;#R6
G: "/ Cb(! ()#Z-/#09#6H6R;#R6
GO, /' ()1#5/./ (5;#R>
, 1+()&).+./ (#(+, -./01;#RJ
[1"/(+ #G/./ (5#09#8 (^-O;#066
X(/)"1.)D#40, 1-3;#>IR
!O-./01.3#-033&(#5/ , +(1/5#
: OF"3"/D;#R?=
!O-./01.3#(+, -./01#.1+#/)."1"1&#
LX*@N;#6>H;#6?6
B.)#09#5O! ()("&1"/" (5;#0=H
B(.Y#)(&"01.3# ' &' ()(+, -./01#
#D5/(: 5;#OHR